



# INDIANA COMMISSION *for* HIGHER EDUCATION

## AGENDA

Thursday, May 13, 2021

101 West Ohio Street, Suite 300  
Indianapolis, IN 46204-4206

[www.che.in.gov](http://www.che.in.gov)



**INDIANA COMMISSION *for***  
**HIGHER EDUCATION**

**MAY COMMISSION MEETING**  
**AGENDA**

**Thursday, May 13, 2021**

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**COMMISSION MEETING**

Indiana Commission for Higher Education  
101 West Ohio Street, 7th Floor Conference Room  
Indianapolis, IN 46204

-or-

**VIRTUAL:** [Join Microsoft Teams](#)

**PHONE:** Dial +1 317-552-1674 | ID: 716 134 271#

- I. Call to Order – 1:00 P.M. (Eastern)**  
**Roll Call of Members and Determination of Quorum**  
**Chair’s Remarks**  
**Commissioner’s Report**  
**Committee Report Outs**  
**Consideration of the Minutes of the March 11, 2021 Commission Meeting ..... 1**
- II. Business Items**
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  - B. 2021 Legislative Session Recap..... 15
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  - E. Academic Degree Programs for Full Discussion
    - 1. Associate of Applied Science in Smart Manufacturing and Digital Integration ..... 23  
to be offered by Ivy Tech Community College
  - F. Academic Degree Programs for Expedited Action..... 55
    - 1. Bachelor of Science in Digital Media and Storytelling – Indiana University East, IUPUI,  
Kokomo, Northwest and Southeast
    - 2. Bachelor of Science in Environmental Geoscience – Indiana University Bloomington
    - 3. Bachelor of Science in Data Analytics – Ball State University
    - 4. Bachelor of Arts in Music – Purdue University West Lafayette

***Meeting takes place on Eastern Time***

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**III. Information Items**  
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**IV. Old Business**  
**New Business**

**V. Adjournment**

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The next meeting of the Commission is **Thursday, June 10, 2021**, in South Bend, Indiana.

**State of Indiana  
Commission for Higher Education**

**Minutes of Meeting**

**Thursday, March 11, 2021**

**I. CALL TO ORDER**

The Commission for Higher Education met in regular session starting at 1:00 p.m. virtually via Microsoft Teams videoconferencing, with Beverley Pitts presiding.

**ROLL CALL OF MEMBERS AND DETERMINATION OF A QUORUM**

*Members Present:* Mike Alley, Dennis Bland, Anne Bowen, Jon Costas, Trent Engbers, Jud Fisher, Chris LaMothe, Pepper Mulherin, Chris Murphy, Dan Peterson, Beverley Pitts, and John Popp

*Members Absent:* Al Hubbard

**CHAIR'S REPORT**

As you know, we had to change our original plans of being on Ivy Tech Community College central campus today. We certainly miss the opportunity to see the campus and interact with your great staff. Even though we cannot be on campus today, I would like to invite President Ellspermann and Chancellor Stacy Atkinson with Hamilton County to say a few words.

President Ellspermann and Chancellor Atkinson offered their remarks.

Thank you, President and Chancellor, for joining us and for your welcoming comments. I want to remind everyone of two upcoming Commission events:

- The State of Education and the Workforce will air tonight at 7:30 p.m. ET on WFYI. Please be sure to tune in!
- The H. Kent Weldon Conference for Higher Education will be held virtually on Friday, April 9. The conference will focus on how higher education is a force for innovation and economic transformation, particularly with recent economic challenges. Please visit the Commission's website to register.

Last month, Dr. Trent Engbers hosted the Faculty Leadership Conference on adult learners. We had two great keynote sessions and breakouts on various topics.

Dr. Trent Engbers provided a summary of the event.

I want to share that the application for the faculty position is now available on the Commission's website. Indiana faculty interested in serving on the Commission can submit their application materials by April 16 to be considered.

## COMMISSIONER'S REPORT

Commissioner Lubbers began her report by stating, tonight at 7:30 pm, public television stations in Indiana will broadcast the "State of Higher Education and the Workforce." Usually, this would be the time slot for the State of Higher Education address, but we pitched to WFYI that we highlight the collaboration and alignment between PK-12, higher education and workforce. The show has an introduction and closing with Governor Holcomb. The remainder of the time is a discussion between Secretary of Education Katie Jenner, Commissioner of Workforce Development Fred Payne and me on behalf of CHE. We focus on the future: the future of learning; the future of work; and the future of Indiana. This will not be a substitute format in future years as higher education will continue to be a focus of an annual presentation.

With the General Assembly in the second half of the session, we are doubling down on our efforts to advocate for our legislative agenda, including our budget requests. Alexa will provide a comparison of the budget packages as they impact higher education later in the meeting. Increasingly, it's important that we prove the value proposition of higher education to policymakers and consumers – students and families. We will do this in our presentation with specific data that shows the financial benefits to students and the state for higher levels of education. There is a growing concern that I want to mention today and that we'll provide more information about when we release our College Readiness Report in the coming weeks. As you may recall, we've been seeing our college going rates decline in recent years – from 65% to our most current report at 61%. We're still working to confirm the final number, but it is pretty clear that the college going number is going to fall below 60%. There are, of course, multiple reasons why but it doesn't change the fact that higher levels of education are linked to greater economic mobility. Since the latest year in the report is 2019, this dip doesn't factor in the COVID impact. It's going to be important to analyze these numbers to find out where we're losing ground and scale strategies to help. If we pass the FAFSA requirement, that is one step that could help.

We're working with State Personnel and our associate commissioners to address back to work policies. At this point, we're hoping to bring the staff back on a staggered basis by early April – with the exception of those who have an underlying health issue and haven't been vaccinated yet. As our chair indicated in her remarks, we're hopeful that our May Commission Meeting can be in person.

As I mentioned last month, I'm highlighting a story at each meeting to recognize the 50<sup>th</sup> anniversary of the Commission. I'm excited to share the story of Esther Bray today – especially since March is National Women's History Month. Esther Bray was an original member of the Commission, having been appointed in July 1971. She continued to serve until June 1992 which meant that she served in this capacity for 21 years. According to a resolution that recognized her, she "faithfully attended and in Commission meetings totaling – at a conservative estimate – 420 days." Mrs. Bray served as secretary of the Commission and "dedicated countless hours outside of formal meetings in reviewing and editing commission minutes, always helping the staff meet agenda deadlines." In receiving the resolution, Mrs. Bray said "she appreciated the kind words that had been offered and

that serving on the commission has been a wonderful experience, and she hoped she had contributed to the state’s higher education.” No doubt she did.

## **CONSIDERATION OF THE MINUTES OF THE FEBRUARY, 2021 COMMISSION MEETING**

**R-21-2.1 RESOLVED:** That the Commission for Higher Education hereby approves the Minutes of the February, 2021 regular meeting. (Motion – Popp, second – Murphy, unanimously approved)

## **II. BUSINESS ITEMS**

### **A. Legislative Update**

The legislation and program implementation team discussed outcomes of the first half of the legislative session, bills that survived, and what is to come during the second half of session.

### **B. Census Bureau Household Pulse Survey**

Shortly after the COVID-19 pandemic upended Americans’ lives, the U.S. Census Bureau, in collaboration with other federal agencies, created the Household Pulse Survey. The survey takes stock of how the pandemic has affected areas like employment, housing, healthcare, and education.

One year into the pandemic, the survey results shed light onto the educational and employment struggles that Hoosiers have faced, how their postsecondary plans have changed, and where Indiana might go from here.

### **C. State Financial Aid Overview**

As part of its enabling statute, the Indiana Commission for Higher Education is responsible for the administration of Indiana’s state financial aid programs. Each year the Commission awards over \$350 million in financial aid across 18 programs to more than 70,000 Hoosier students. The Commission staff will provide an overview of the 19-20 administration of Indiana’s state financial aid programs.

### **D. Outreach Team Overview**

The Commission has a team of 12 outreach professionals, comprised of four central-office staff and eight regionally-based coordinators who live and work in the communities they serve. With a dual emphasis on K-12 postsecondary preparation and college and career transitions, the Outreach Team supports students as they transition through the education pipeline, working in K-12 schools and college campuses and collaborating with community partners to boost student success.

The Commission will hear directly from members of the Commission's Outreach Team with an overview of their work, their response to the pandemic, and upcoming opportunities to engage students and stakeholders.

**E. Academic Degree Programs for Expedited Action**

1. Bachelor of Science in Health Education and Promotion to be offered by Purdue University Global
2. Master of Music Therapy to be offered by Purdue University Fort Wayne
3. Bachelor of Science in Criminal Justice to be offered by Purdue University Fort Wayne
4. Bachelor of Science in French to be offered by Indiana University East, Northwest, South Bend and Southeast
5. Bachelor of Science in German to be offered by Indiana University East, South Bend and Southeast
6. Bachelor of Science in Spanish to be offered by Indiana University East, IUPUI, Kokomo, Northwest, South Bend and Southeast

**R-21-2.2 RESOLVED:** That the Commission for Higher Education hereby approves the following academic degree programs, in accordance with the background information provided in this agenda item. (Motion – LaMothe, second – Engbers, unanimously approved)

**F. Capital Projects for Expedited Action**

1. Ivy Tech Community College – Muncie Campus Fisher Building Rebuild

**R-21-2.3 RESOLVED:** That the Commission for Higher Education hereby approves the following capital projects, in accordance with the background information provided in this agenda item. (Motion – Murphy, second – Fisher, unanimously approved)

**III. INFORMATION ITEMS**

- A. Academic Degree Programs Awaiting Action
- B. Academic Degree Actions Taken by Staff
- C. Media Coverage

**IV. OLD BUSINESS  
NEW BUSINESS**

There was none.

**V. ADJOURNMENT**

The meeting was adjourned at 3:53 P.M.

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Beverley Pitts, Chair

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Jud Fisher, Secretary



**COMMISSION FOR HIGHER EDUCATION**

Monday, May 13, 2021

**BUSINESS ITEM A:**

**Non-Binding Tuition and Mandatory Fee Targets for 2021-2022 and 2022-2023**

**Staff Recommendation**

That the Commission for Higher Education adopt the recommendation of non-binding tuition and mandatory fee increase targets for each of Indiana’s public postsecondary institutions for 2021-22 and 2022-23, consistent with this agenda item.

**Background**

By statute (I.C. 21-14-2-12.5), the Indiana Commission for Higher Education is charged with recommending “non-binding tuition and mandatory fee increase targets for each state educational institution.” The Commission shall make recommendations no later than 30 days after the enactment of a state budget.

State educational institutions must set tuition and fee rates no later than 60 days after the enactment of the state budget. Institutions must hold a public hearing no later than 30 days after the Commission sets non-binding tuition and fee targets. In addition, institutions must submit to the State Budget Committee a report outlining the financial and budgetary factors considered by the board of trustees in determining the amount of the increase. Tuition and fee rates are to be set by the institutions for the next two academic years.

The State Budget Committee, upon review of the Commission’s non-binding tuition and fee targets and reports submitted by the state educational institutions regarding tuition and fee rates, may request that an institution appear at a public meeting of the state budget committee concerning the report.

**Supporting Document**

Non-Binding Tuition and Mandatory Fee Increase Targets for Indiana’s Public Postsecondary Institutions for 2021-22 and 2022-23

## **Non-Binding Tuition and Mandatory Fee Targets for Indiana’s Public Postsecondary Institutions for 2021-22 and 2022-23**

*May 13, 2021*

### ***Introduction***

The Commission for Higher Education is required under statute (I.C. 21-14-2-12.5) to recommend “non-binding tuition and mandatory fee increase targets” for Indiana’s public postsecondary institutions. This recommendation must be made no later than 30 days after the enactment of a state budget.

The official statutory authority to set tuition and mandatory fees lies with the board of trustees of each Indiana public postsecondary institution. Institutions must hold a public hearing no later than 30 days after the Commission sets non-binding tuition and mandatory fee targets. Tuition and mandatory fee rates for the next two academic years must be set by the institutions no later than 60 days after the enactment of the state budget.

The Commission’s recommended tuition and mandatory fee targets reflect the coordinated effort among members of the Commission, representatives from Indiana’s colleges and universities, and state policymakers to strike a balance between understanding the operational realities of the institutions and the need to ensure affordable access to college for Hoosier families. Aligning with the Commission’s goal of having 60% of Hoosiers with education beyond high school by 2025, the Commission focuses its recommendation on tuition and mandatory fee rate increases for resident undergraduate students.

### ***Indiana and the National Landscape: Tuition and Mandatory Fees***

Indiana’s recent tuition increases remain the lowest in nearly 30 years and are among the lowest in the nation. At Indiana’s public four-year colleges, in-state tuition and mandatory fee rates grew by an average of 2.2% each year from 2010-11 to 2020-21 compared to the national average of 3.8% for public four-year institutions. This placed Indiana’s public four-year institutions as third in the nation for the lowest average increase in tuition and mandatory fee rates over the 10-year period. In-state tuition and mandatory fee rates at Indiana’s public two-year colleges increased slightly above national averages over the same time period: 4.4% compared to 3.8% nationally (state ranking of 23).<sup>1</sup>

<sup>1</sup> College Board, Annual Survey of Colleges. State-level data: <https://trends.collegeboard.org/college-pricing/figures-tables/tuition-fees-sector-state-over-time> . National-level data: <https://trends.collegeboard.org/college-pricing/figures-tables/average-rates-growth-published-charges-decade>.

Strong leadership at Indiana's public institutions has been instrumental in setting a high bar for college affordability. Purdue University-West Lafayette recently announced plans to hold tuition flat for a tenth consecutive year, through the 2021-22 academic year. Indiana's public institutions have shown strong commitments to the Commission's tuition and mandatory fee recommendations, which is evidenced in part by Indiana's tuition increases falling below the national average.

### ***Commitment to College Affordability***

Even though Indiana has shown significant progress in keeping tuition and fee rate increases low, the state must maintain its focus on increasing college affordability. College tuition represents a large investment for Hoosier families with tuition and mandatory fees at Indiana's public two-year institutions representing approximately 11% of Indiana's median household income. At Indiana's public four-year institutions, tuition and mandatory fees can represent up to 18% of the median household income in the state. Considering that tuition and mandatory fees make up only a portion of the total cost of attendance, it is understandable that many students believe an education beyond high school is out of reach financially.

Keeping the cost of college down is essential to eliminating barriers to college access and completion, especially for low- and middle-income Hoosiers. College completion can be a gateway to economic opportunity. The typical American with a college degree earns approximately 82% more than those with only a high school diploma (\$65,161 versus \$35,630 in average annual salary).<sup>2</sup> In addition, wage outcome data of Indiana public college graduates prove the payoff of a college degree increases over time and at each degree level.<sup>3</sup> The relationship between education and income is also present at the statewide level, with a state's ranking for per capita income often correlating with its ranking for educational attainment. The benefits of a college degree can go beyond the income premium as well, as college graduates also contribute greater fiscal support, philanthropic participation and civic engagement in their communities.<sup>4</sup> Given these factors, college affordability is a key component in the effort to increase educational attainment levels and create a greater sense of well-being for all Hoosiers.

### ***Considerations for ICHE Tuition and Mandatory Fee Recommendation***

The Commission considered several factors in the process of establishing non-binding tuition and mandatory fee targets for Indiana's public postsecondary institutions for academic years 2021-22 and 2022-23. The 2021-23 higher education budget, current student debt levels, Federal Higher

<sup>2</sup> 2019 Median Salary, People 25 Years Old and Over (PINC-03), Census Bureau

<sup>3</sup> 2020 College Value Report, Indiana Commission for Higher Education

<sup>4</sup> "Beyond the College Earnings Premium. Way Beyond," The Chronicle for Higher Education, January 29, 2017: <http://www.chronicle.com/article/Beyond-the-College-Earnings/239013> .

Education Emergency Relief funding provided to institutions, and trends in inflationary costs experienced by Hoosier consumers all factored into the Commission's recommendation.

### **Value Proposition of Higher Education**

As Indiana's economy is being transformed by technology, automation and higher skill requirements, it's critical that we embrace postsecondary education and training as the dominant pathway to a good job and economic mobility. The idea that a high school diploma is enough is reflected in Indiana's declining college-going rate, which has dropped six percentage points in four years (65 percent to 59 percent). Clearly, we must do more to prove to Hoosiers the value of more education and training, as well as encourage students to go to college. For many years, the Indiana Commission for Higher Education has focused on expanding the definition of "college" to include multiple postsecondary pathways, including high-value certificates and certifications as well as two-year, four-year and graduate degrees. At the same time, we must continue to work to increase affordability to ensure that Hoosiers can access and earn a credential.

### **State Appropriations**

The State maintained a commitment to higher education throughout the 2021-23 budget development process. The Governor, House and Senate all recommended increases to higher education funding through additional operating dollars. The 2021-23 biennial budget that was signed by Governor Holcomb on April 23, 2021 includes over \$2.8 billion in operating funding, \$11.6 million in new capital projects (Regional Deferred Maintenance) and over \$958 million in line item and financial aid funding over the biennium. The state's increased financial commitment to higher education this biennium shows the continued partnership between the State and its higher education institutions.

### **State Fiscal Liability and Student Need**

In the upcoming biennium, Indiana will provide up to over \$390 million in FY 2022 and FY 2023 in student financial aid dollars to cover the cost of tuition and mandatory fees for Hoosier students. The 21st Century Scholars program, one of the state's largest financial aid programs, funds 100% of tuition and mandatory fees at Indiana public institutions for eligible students. In the case of 21st Century Scholars, state expenditures are directly tied to tuition and mandatory fee rates at Indiana public institutions. Additionally, 21st Century Scholar grant amounts at Indiana private institutions represent the average tuition and mandatory fee rates at public institutions; thus, increases in tuition and mandatory fee rates at public institutions increase state expenditures at Indiana private institutions. The State has strong fiscal interest in limiting tuition increases to stay within allotted appropriation levels over the biennium.

Unlike the 21st Century Scholarship, the Frank O'Bannon grant amounts are fixed based on a student's demonstrated financial need and school choice. These grant amounts do not automatically increase to accommodate higher tuition and mandatory fees. The Commission approved base award amounts for the program in May 2020, which are still in effect today. Those approved amounts brought the award back up to 90% of the program's pre-recession award levels, resulting in additional grant dollars being distributed to students. ***Increases in tuition and mandatory fees limit how far these award dollars can go to cover higher education expenses for Hoosier students.***

### **Student Debt**

At Indiana's public four-year institutions, 63% of graduates have student loan debt with an average loan balance of \$25,435. This is a slight improvement to last biennium's figures which saw 68% of graduates with student loan debt and an average loan balance of \$26,935. At Indiana's public two-year institutions, 43% of graduates accumulated an average of \$12,697 in student loans. These figures also represent improvements over the biennium.<sup>5</sup> National student loan debt estimates are calculated slightly differently to allow for cross-state comparisons. However, recent data for four-year public and private colleges indicate that Indiana ranks 18<sup>th</sup> highest state in the nation for the proportion of graduates with debt at 59% and ranks 28<sup>th</sup> highest for the average level of debt at \$28,112.<sup>6</sup> Tuition increases further burden Hoosier students and families relying on loans to finance college. ***Restraining tuition and mandatory fee increases is one mechanism to help control student debt levels and default rates.***

### **Federal Higher Education Emergency Relief Funding**

Indiana's public higher education institutions will have received about \$985M in Federal COVID-19 relief funding once the Higher Education Emergency Relief funding is fully distributed. Roughly \$425M of that funding must be provided to students in the form of emergency financial aid grants. While we understand that this funding must be tied to loss in revenues relating to the COVID-19 pandemic, it must be considered during this biennium when building our tuition and mandatory fee recommendation, as it is financial support to the institutions.

### **Inflation Indicators**

Historically, the Commission has tied its tuition and mandatory fee target recommendation to inflationary increases. The Commission staff used the same inflation index that has been used previously. The inflation index includes data collected from the Bureau of Labor Statistics. The

<sup>5</sup> 2020 College Value Report, Indiana Commission for Higher Education.

<sup>6</sup> Project on Student Debt, The Institute for College Access and Success. Class of 2019.

analysis focuses on the latest four years of available data, 2017 through 2020, to provide the most recent snapshot of price changes for the recommendation process.

The Consumer Price Index (CPI) index provides a view of cost changes from the perspective of the consumer, particularly Hoosier students and their families. The CPI index measures the change in price of goods and services over time. Using the index measuring inflation of all goods and services in the Midwest region of the country is a practical methodology to ensure that we meet the objective of keeping the price of higher education flat relative to other types of goods and services.

For the recommendation process, Commission staff focused on the three-year compound annual growth rate (CAGR) percentage change for this index. The three-year CAGR incorporates longer-term historical data in the percentage change estimates (in comparison to one-year percentage changes that only include the latest two years of data). It also measures the average yearly growth rate, which provides a useful interpretation for higher education stakeholders who typically make decisions on an academic year basis (compared to two-year and three-year percentage changes that summarize changes across multiple years).

Hoosier consumers in the Midwest region of the country experienced an average yearly growth rate in prices of 1.45% from 2017 to 2020 as measured by the average three-year CAGR of the CPI-Midwest index. As a note, Hoosier per capita income (adjusted for inflation) grew at a rate of 2.45% using the three-year CAGR calculation.<sup>7</sup>

### ***Staff Recommendation***

Consistent with historical recommendations, Commission staff considers inflationary changes when determining its maximum tuition and fees target. To keep the price of higher education flat relative to other types of goods and services, it must be constrained by an overall price index, not a higher education inflation index. Using the index measuring inflation of all goods and services in the Midwest region of the country is a practical methodology to ensure that we meet this objective. The staff preference that institutions keep tuition and fees flat is due to the importance of maintaining the focus on increasing college affordability.

While the staff preference is to keep tuition and fees flat, we recommend that if tuition and fees are increased, they should not exceed a maximum of 1.45 percent per year in each year of the biennium. Institutions that exceed the 1.45 percent increase should be prepared to provide a justification to the Commission and the State Budget Committee. This inflationary approach is based on the three-year compound annual growth rate in the CPI for all goods and services for the Midwest. The baseline for this recommendation is the 2020-21 resident undergraduate base

<sup>7</sup> Indiana per capita income data were sourced through the Bureau of Economic Analysis: <https://bea.gov/>. The 3 year CAGR calculation includes per capital income data from 2017 through 2020. Per capita income data for 2021 were preliminary at the time this report was created.

tuition and mandatory fee rates submitted to the Commission during the 2021-23 biennium. The Commission’s non-binding tuition and mandatory fee targets for 2021-22 and 2022-23 for each institution are included in Table 1.

Table 1. Non-Binding Tuition and Mandatory Fee Targets for 2021-22 and 2022-23. Commission staff recommendation is flat, or if tuition and fees must be increased, up to no greater than 1.45%.

INSITUTIONAL INCREASES					
Institution	2020-21 Tuition and Fees	CHE Recommendation		Impact	
		2021-22 Target	2022-23 Target	\$ for 2022	\$ for 2023
<b>INDIANA STATE UNIVERSITY</b>	\$9,466	0-1.45%	0-1.45%	\$9,603	\$9,743
<b>UNIV OF SOUTHERN INDIANA</b>	\$8,146	0-1.45%	0-1.45%	\$8,264	\$8,384
<b>BALL STATE UNIVERSITY</b>	\$10,144	0-1.45%	0-1.45%	\$10,291	\$10,440
<b>VINCENNES UNIVERSITY</b>	\$6,250	0-1.45%	0-1.45%	\$6,341	\$6,433
<b>ITCCI</b>	\$4,637	0-1.45%	0-1.45%	\$4,704	\$4,772
<b>INDIANA UNIVERSITY SYSTEM</b>					
Bloomington	\$11,221	0-1.45%	0-1.45%	\$11,384	\$11,549
East	\$7,715	0-1.45%	0-1.45%	\$7,827	\$7,941
Kokomo	\$7,715	0-1.45%	0-1.45%	\$7,827	\$7,941
Northwest	\$7,715	0-1.45%	0-1.45%	\$7,827	\$7,941
South Bend	\$7,715	0-1.45%	0-1.45%	\$7,827	\$7,941
Southeast	\$7,715	0-1.45%	0-1.45%	\$7,827	\$7,941
IUPUI	\$9,944	0-1.45%	0-1.45%	\$10,088	\$10,235
<b>PURDUE UNIVERSITY SYSTEM</b>					
West Lafayette	\$9,992	0-1.45%	0-1.45%	\$10,137	\$10,284
Northwest	\$7,942	0-1.45%	0-1.45%	\$8,057	\$8,174
Fort Wayne	\$8,730	0-1.45%	0-1.45%	\$8,857	\$8,985

Source: 2020-21 tuition and mandatory fee rates were sourced through the Indiana Commission for Higher Education Tuition and Mandatory Fees Survey

Note: Above tuition and mandatory fee totals are based on a 30 credit hour course load for resident undergraduate students



**COMMISSION FOR HIGHER EDUCATION**

Thursday, May 13, 2021

**BUSINESS ITEM B:**

**2021 Legislative Session Recap**

**Background**

The legislation and program implementation team will provide a recap of the 2021 legislative session and discuss the Commission's charges and implementation plan for the upcoming year.

**Supporting Document**

To be distributed.



**COMMISSION FOR HIGHER EDUCATION**

Thursday, May 13, 2021

**BUSINESS ITEM C:**

**2021-2022 Frank O’Bannon Grant Schedule of Awards**

**Staff Recommendation**

Adopt the amounts included in the attached 2020-2021 Frank O’Bannon Grant Schedule of Awards.

**Background**

IC 21-12-1.7-3(a) requires the Commission to annually adopt a schedule of award amounts for the Higher Education Award (HEA) and Freedom of Choice grant (FOC) – together known as the Frank O’Bannon Grant. The schedule must provide award amounts on the basis of the student’s Expected Family Contribution (EFC) and the type of institution the student is attending. Per IC 21-12-1.7-3(c), when renewing HEA or FOC, a student earning at least 30 credit hours or the equivalent in the year the student last used aid must receive a larger award. This larger award is referred to as the “On-Time” amount. First-time recipients are initially eligible for the larger award. Students earning less than 30 credit hours, but more than 24 credit hours are eligible for a reduced amount. The reduced award is referred to as the “Full-Time” amount.

**Supporting Document**

2020-2021 Frank O’Bannon Grant Schedule of Awards (DRAFT)

# 2021-2022 FRANK O'BANNON GRANTS

Updated April 23, 2021

The **Frank O'Bannon Grant**, which includes the Higher Education Award and the Freedom of Choice Award, is Indiana's primary need-based financial aid program. Eligibility is based on a student's FAFSA, and the grant may be used toward tuition and regularly assessed fees.

## BASE AWARD

INSTITUTION TYPE	EXPECTED FAMILY CONTRIBUTION (EFC)																			
	\$0	\$1-\$500	\$501-\$1,000	\$1,001-\$1,500	\$1,501-\$2,000	\$2,001-\$2,500	\$2,501-\$3,000	\$3,001-\$3,500	\$3,501-\$4,000	\$4,001-\$4,500	\$4,501-\$5,000	\$5,001-\$5,500	\$5,501-\$6,000	\$6,001-\$6,500	\$6,501-\$7,000	\$7,001-\$7,500	\$7,501-\$8,000	\$8,001-\$9,000	\$9,001-\$9,500	
Private	On-Time	\$9,200	\$8,450	\$7,950	\$7,450	\$6,950	\$6,450	\$5,950	\$5,450	\$4,950	\$4,450	\$3,950	\$3,450	\$2,950	\$2,450	\$1,950	\$1,450	\$950	\$0	\$0
	Full-Time	\$7,400	\$6,650	\$6,150	\$5,650	\$5,150	\$4,650	\$4,150	\$3,650	\$3,150	\$2,650	\$2,150	\$1,650	\$1,150	\$650	\$0	\$0	\$0	\$0	\$0
Public	On-Time	\$4,600	\$4,350	\$3,950	\$3,350	\$2,850	\$1,850	\$1,350	\$850	\$0	\$0	Not Eligible for Frank O'Bannon Grant								
	Full-Time	\$3,700	\$3,450	\$2,950	\$2,450	\$1,950	\$950	\$0	\$0	\$0	Not Eligible for Frank O'Bannon Grant									
Proprietary or Ivy Tech	On-Time	\$3,500	\$3,250	\$2,750	\$2,250	\$1,750	\$750	\$0	\$0	Not Eligible for Frank O'Bannon Grant										
	Full-Time	\$2,900	\$2,650	\$2,150	\$1,650	\$650	\$0	\$0	Not Eligible for Frank O'Bannon Grant											

- Students in their **first award year** will receive the **on-time** award amount.
- To renew an **on-time** award, students must complete at least **30 credit hours\*** during their 12-month award year.
- Students failing to complete **30 credits hours\*** during their 12-month award year, but completing at least **24 credit hours\*** may receive a **full-time** amount.
- Credit hours earned in excess of 30 during an award year may be counted toward future credit completion requirements. Students may also use international baccalaureate, advanced placement or dual credit hours to meet credit completion requirements.

\*or the equivalent.

## STUDENT PERFORMANCE INCENTIVES

### ✓ ACADEMIC HONORS \$900

First Award Year Only:  
Graduate high school with Academic or Technical Honors diploma.

Second, Third, Fourth Award Years: Earn at least a 3.0 cumulative GPA through end of previous award year.

### ✓ ASSOCIATE DEGREE \$900

First, Second, Third, Fourth Award Years: Earn an associate degree before enrolling in bachelor's degree program.

### ✓ ACCELERATED SCHEDULE \$1,400

Second, Third Award Years: Complete at least 39 credit hours during the last award year.

### ✓ FAST TRACK 25%, 50% or 100% more aid for current award year

First, Second, Third Award Years: Complete 30 credits in current award year and then attempt at least 6 more credits, or enroll in a highly accelerated degree program.

Student with financial need may earn student performance incentives even if his or her base award is \$0.

**BASE AWARD + STUDENT PERFORMANCE INCENTIVE(S) = TOTAL STATE FINANCIAL AID AWARD**



INDIANA COMMISSION for HIGHER EDUCATION

## COMMISSION FOR HIGHER EDUCATION

Thursday, May 13, 2021

### BUSINESS ITEM D:

### 2021 College Readiness Report

#### Background

The Commission for Higher Education's annual College Readiness Reports provide K-12, college success coalitions and other higher education stakeholders with more information about Indiana students' college access and performance. The goal is to highlight successes in college readiness and access and work collectively to tackle remaining challenges to ensure Hoosier students are prepared for the rigors of higher learning.

The [2021 Indiana College Readiness Reports](#) show a decline over several years in the statewide college-going rate, with 59 percent of high school graduates enrolling in college within a year of graduation in 2019 (the year the new report data is focused on), compared to 65 percent in 2015.

Though more students are graduating high school than ever before, more are also earning graduation waivers. Students with waivers are less likely to enroll in college and more likely to need remediation. More than 12 percent of 2019 high school graduates received a waiver. The statewide version of the report includes a special breakout on graduation waivers.

Among high school graduates who go straight to college, 76 percent return for a second year. Gaps can be seen in college-going rates, first year GPA and other metrics among Black and Hispanic/Latino and low-income Hoosiers.

The 2021 Indiana College Readiness Reports include interactive dashboards showing trends and comparisons for counties and regions and incorporate new data elements, such as composite readiness metrics and degree completion rates.

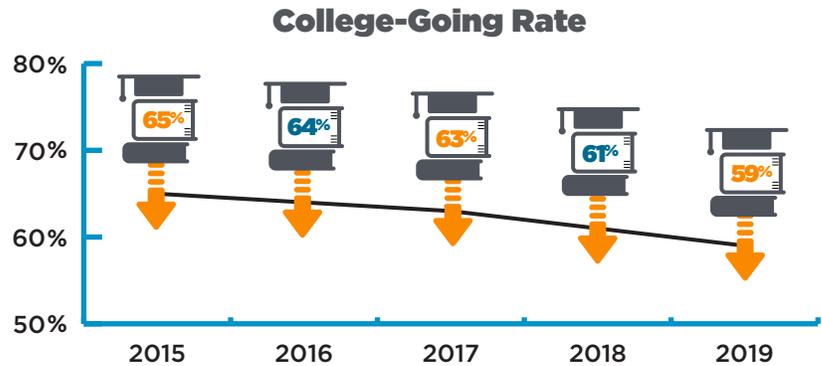
#### Supporting Document

2021 College Readiness Report Data-At-A-Glance



### COLLEGE-GOING DECLINE

College-going rates have decreased over time.



### High School Graduation Waivers



of students in 2019 who graduated without a high school waiver enrolled in college



of students in 2019 who graduated with a high school waiver enrolled in college

### INDIANA COLLEGE CORE



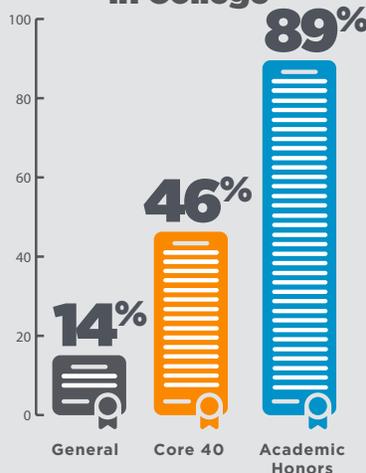
**1,638**

students earned the Indiana College Core in 2019, up from 1,200 in 2018. The Indiana College Core is a 30-hour block of credits that transfers among all of Indiana's public institutions.

### HIGH SCHOOL DIPLOMA TYPE

Indiana high school graduates who earn the Academic Honors Diploma are more likely to go to college.

#### % of Diploma Earners Who Enroll in College



### EARLY COLLEGE CREDIT

Most Hoosiers earn college credit while in high school.

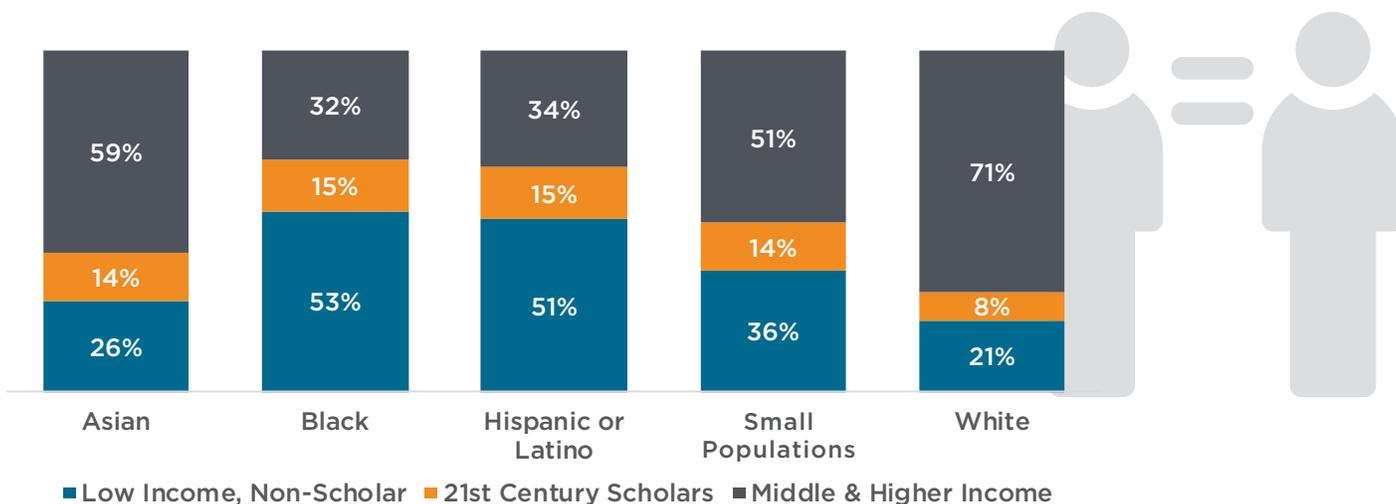
**Nearly 2/3 of high school graduates earned AP or dual credit in 2019**



### COLLEGE EQUITY AND ACCESS

High school graduates of color are more likely to be from low-income homes. Low-income, non-21st Century Scholars less likely to go to college than their higher-income peers or 21st Century Scholars.

#### High School Graduates by Race/Ethnicity and Socioeconomic Status (2019)



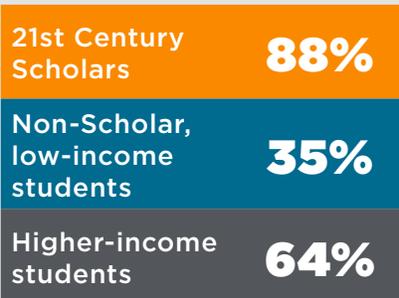
#### GEOGRAPHY GAP

The gap between rural and non-rural students closed slightly in 2019, but has remained steady over the past 10+ years.



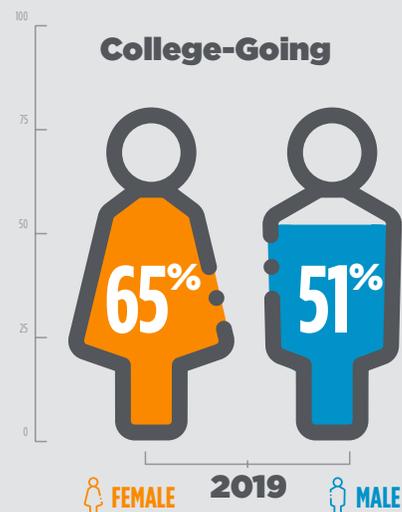
#### 21ST CENTURY SCHOLARS OUTPACE ALL SMALL POPULATIONS

The college-going rate of 21st Century Scholars increased two percentage points from 2018. Scholars are the only group on track to close the achievement gap by 2025.



#### GENDER GAP

##### College-Going



Male students went to college at lower rates than female students in 2019. The gap widened by 2 percentage points in one year.



**COMMISSION FOR HIGHER EDUCATION**

Thursday, May 13, 2021

**BUSINESS ITEM E-1:**

**Associate of Applied Science in Smart Manufacturing and Digital Integration to be offered by Ivy Tech Community College**

**Staff Recommendation**

That the Commission for Higher Education approve the Associate of Applied Science in Smart Manufacturing and Digital Integration, to be offered by Ivy Tech Community College in accordance with the background discussion in this agenda item and the Program Description.

**Background**

**Review Process.** The Academic Affairs and Quality Committee discussed this program at its April 26, 2021 meeting and reacted favorably to the proposal.

**Similar Programs in Indiana.** In the *independent* or private non-profit sector, Trine University offers a B.S. in Mechatronics and Robotics Engineering which began in August 2020 and a B.S. in Manufacturing Technology which graduated 3 students in FY20.

In the *proprietary* or private for-profit sector, there are no similar programs offered.

Within the *public* sector, Indiana State University offers a B.S. in Automation and Control Engineering which graduated 11 students in FY20. Vincennes University offers an A.S. in Advanced Manufacturing Automation Technology which graduated 74 students in FY20, and Purdue University offers a B.S. in Manufacturing Engineering Technology which graduated 38 students in FY20.

**Locations.** The proposed Associate of Applied Science (A.A.S.) in Smart Manufacturing and Digital Integration will be offered through the School of Advanced Manufacturing, Engineering, and Applied Science at the Columbus, Indianapolis, Kokomo, Lafayette, Madison, Sellersburg, South Bend/Elkhart, and Terre Haute campuses of Ivy Tech Community College.

**Related programs at Ivy Tech Community College.** The proposed program will draw coursework from three existing programs: Advanced Automation and Robotics Technology; Industrial Technology; and Information Technology Support. Some courses drawn from the first two programs, which are

accredited by the Association of Technology, Management, and Applied Engineering (ATMAE), will be upgraded with Industry 4.0 skills through embedding in them new certifications.

In FY2020, the A.A.S. in Information Technology Support enrolled 655 students and had 58 graduates statewide. In that same year, the A.A.S. in Industrial Technology had 929 enrollees and 183 graduates, while the A.A.S. in Advanced Automation and Robotics Technology had 548 enrollees and 94 graduates.

**Industry 4.0.** According to the College, Industry 4.0, the fourth industrial revolution, embraces cyber-physical systems or integrated automation and is characterized by digitalization of production, networking of the working environment, decentralization of processes and decision-making structures, the intelligent factory, and disruptive technologies, including the mobile internet, big data, and the internet of things.

**Certifications.** Graduates of the proposed program would be expected to earn four different Associate Certifications issued by the Smart Automation Certification Alliance (SACA), as well as 14 different SACA Specialist Certifications (micro-credentials) at the gold level (there is also a lower, silver level offered). Graduates would also be expected to earn two certifications issued through NOCTI (National Occupational Competency Testing Institute): Fanuc Certified Robot Operator and Fanuc Certified Robot Technician.

**Credit Hours and Transfer.** The A.A.S. in Smart Manufacturing and Digital Integration requires 70 semester hours of credit, thus exceeding the standard credit hour expectation for associate degrees. From a staff perspective, this is justified because of the rigor of the curriculum and the skill set expected by employers in smart manufacturing. The proposed degree is designed to prepare students for immediate entry into careers in Industry 4.0 upon graduation. In addition, it is expected that many students enrolled in the program are already working in related fields. While the program was developed to transfer into existing bachelor level degrees, there is not a formal transfer agreement in place. There are several bachelors degrees in applied management and other similar programs that align with the proposed degree. Once the degree is approved, Ivy Tech will collaborate with the universities to get the articulation agreements in place.

**Supporting Document**

- (1) Program Description – Ivy Tech Community College Associate of Applied Science in Smart Manufacturing and Digital Integration
- (2) Ivy Tech PowerPoint
- (3) SACA Certifications

**Smart Manufacturing and Digital Integration (SMDI)**  
**Associates of Applied Science (AAS) degree, Technical Certificate (TC), Certificate (CT)**  
**To Be Offered by Ivy Tech Community College at**  
**Columbus, Lafayette, Terre Haute, Madison, South Bend/Elkhart, Kokomo, Sellersburg,**  
**and Indianapolis**

**1. Characteristics of the Program**

- a. Campus(es) Offering Program: **Columbus, Lafayette, Terre Haute, Madison, South Bend/Elkhart, Kokomo, Sellersburg, and Indianapolis**
- b. Scope of Delivery (Specific Sites or Statewide): **Columbus, Lafayette, Terre Haute, Madison, South Bend/Elkhart, Kokomo, Sellersburg and Indianapolis** (The degree outcomes will eventually be added to additional sites. However, it will not be at all campus locations as an AAS pathway.)
- c. Mode of Delivery (Classroom, Blended, or Online): **Classroom**
- d. Other Delivery Aspects (Co-ops, Internships, Clinicals, Practica, etc.):  
**Internships/Apprenticeships required**
- e. Academic Unit(s) Offering Program: **School of Advanced Manufacturing, Engineering, and Applied Science.**

**2. Rationale for the Program**

- a. Institutional Rationale (Alignment with Institutional Mission and Strengths)

- Why is the institution proposing this program?

**Ivy Tech Community College is proposing a degree in Smart Manufacturing and Digital Integration to produce qualified employees to match an emerging need in the field of smart manufacturing, also known as Industry 4.0.**

- How is it consistent with the mission of the institution?

**This new degree, Smart Manufacturing and Digital Integration (SMDI), supports Ivy Tech Community College's mission to prepare Indiana residents to learn, live, and work in a diverse and globally competitive environment by delivering professional, technical, transfer, and lifelong education, enhancing the development of Indiana's citizens and communities strengthening the state's economy.**

- How does this program fit into the institution's strategic and/or academic plan?

**Ivy Tech Community College's strategic plan consists of eight unique goals. Adding a degree in SMDI supports two of those eight goals. Goal 3 – Student Completions, is supported by the new degree as SMDI is built on 20 new certifications recognized and valued by industry. Completions increase as students continue through the new pathway stacking credentials to the AAS.**

**Goal 4 - Workforce Alignment, is the basis for the need for SMDI, particularly Strategy 4.1 – Ensure campuses focus on high-wage, high-demand jobs by offering the right programs at the right places. SMDI has been designed to develop students for the high wage high demand careers in industry increasing with 4.0 technology adoption. Results from a recent survey found that more than 90% of companies indicated that these new 4.0 careers would require a technical degree.**

- How does this program build upon the strengths of the institution?

**The college has highly successful programs in Industrial Technology (INDT), Advanced Automation and Robotics Technology (AART), and in the school of Information Technology (IT). The Industrial Technology and Advanced Automation and Robotics programs are in the school of Advanced Manufacturing, Engineering, and Applied Science (AMEAS) accredited by The Association of Technology, Management, and Applied Engineering (ATMAE). Students in these programs have the ability to earn industry-recognized certifications such as OSHA-10, MSSC, NOCTI, NC3, and AWS. The school of IT has certification courses with certifications from CompTIA, Oracle, Microsoft, C++ Institute, and Android.**

**This new program will combine elements from all of these programs to form a new degree requested by employers. The Smart Manufacturing and Digital Integration degree program has adopted one course from the school of IT, two courses from AART and two courses from INDT. A total of nine new courses will be added to AMEAS building on existing courses to support the new degree. Some existing courses in AART and INDT can be used in the new degree as they have been upgraded with 4.0 skills through the embedding of new certifications. Additionally, the program will adopt three courses that are currently listed as statewide electives from the AART program.**

*Appendix 1: Institutional Rationale, Detail (This appendix should contain links to the institution's strategic and/or academic plan or the plans themselves.)*

b. State Rationale

- How does this program address state priorities as reflected in *Reaching Higher, Achieving More?*

**The guiding principles that have been adopted by the Indiana Commission for Higher Education (CHE) are learner-centered, talent-driven, and future focused. This SMDI program has been developed and meets all of these guiding principles.**

**SMDI is learner-centered, recognizing the changing needs and demographics of students and placing students at the center of each and every learning objective from development to implementation. Given the advanced technologies that are**

**in this program, most of the courses will be traditional face-to-face delivery. Some may be offered in other modalities, particularly in general education. The majority of the coursework will require hands-on learning, labs and demonstrated competencies. The learner-centered aspect is especially clear in the new program's adaptation of the successful block schedule model at Ivy Tech which provides students with classes at the same time and on the same days throughout the degree program, allowing them to plan their education within the context of their work and family lives. The workforce alignment portion is clear through the close involvement of state and national employers in the development of the program and in its ongoing delivery.**

**The SMDI curriculum was developed from listening to industry partners, and making talent-driven decisions on skills and competencies employees need to be successful and productive in the Industry 4.0 era and beyond. This degree is aligned to prepare students for immediate and long-lasting career opportunities, and has the capacity to skill-up post-graduates in emerging technology.**

**The SMDI program is future focused. While there are companies who have not embraced technology at the 4.0 level, many employers have either adopted the new technology or are in the process of adopting. This program is preparing students for success in the job market today and in the future. The need for the pipeline of talent is evident from survey results showing the demand is medium to high and more than 90% of employers said their future employees need to have a technical degree in this field. This program must remain current, and ahead of the curve, which will require continuous development of new courses to support the constantly emerging technology. Ivy Tech's system of having program advisory committees in campus service areas across the state providing guidance and advice for faculty and curriculum ensures alignment with ever changing skills. Working with colleges and universities across the country through the continued Smart Automation Certification Alliance (SACA) certification development with national employers, ensures that the degree will stay on the cutting edge of technology.**

c. Evidence of Labor Market Need

i. National, State, or Regional Need

- Is the program serving a national, state, or regional labor market need?

**State – This program will meet statewide employment needs as it has been developed as a Center of Excellence at strategic sites within Ivy Tech's statewide system. Similar to new programs in IT, labor market demand is difficult to measure as many of the jobs do not yet have standard job descriptions or occupational codes.**

ii. Preparation for Graduate Programs or Other Benefits

- Does the program prepare students for graduate programs or provide other benefits to students besides preparation for entry into the labor market?

**Students will be prepared for new careers in Industry 4.0, and they will be able to transfer to complete a four-year degree. Letters of support from universities such as Indiana State University, Trine University, Purdue University, and Purdue Polytechnic are included. While the articulation discussions have not yet begun the program has been developed to transfer into existing bachelor level degrees. In addition, Purdue is working on a BS and MS in Smart Manufacturing Industrial Informatics. Trine's Manufacturing Technology degree currently aligns with SMDI.**

iii. Summary of Indiana DWD and/or U.S. Department of Labor Data

- Summarize the evidence of labor market demand for graduates of the program as gleaned from employment projections made by the Indiana Department of Workforce Development and/or the U.S. Department of Labor?

**The new Smart Manufacturing and Digital Integration degree does not fit nicely into the Standard Occupational Classification (SOC) system that is used by Indiana Department of Workforce Development, and the United States Department of Labor. However, when looking at the skills that will be needed, for these new occupations, common skills were identified and mapped to some existing occupations. This new occupation will require knowledge in many areas with demonstrated competencies and skills in IT, engineering, and manufacturing. The skilled candidate for this occupation could develop software or dashboards that will improve a manufacturing facility's throughput. This occupation most likely falls into the Software Developer category 15-1132, but with supporting manufacturing, the title will most likely be Digital Manufacturing Engineer or Digital Manufacturing Technician. The projections for this position have a projected growth of 37.4% by 2026 with 5,709 positions being open by 2026. The median wage will be \$38.69 (Hoosierdata). Electrical Engineers 17-2071, 17-3023 (technicians), and 17-3029 (technologist) may also be a title for the students attaining positions upon graduating from this program. The demand for the engineering positions is projected to increase 8% with a median wage of \$37.39 (Hoosierdata). Other manufacturing companies may employ these students as Industrial Engineers 17-2112. Industrial Engineers is project to increase 18.8% by 2026 with a median salary of \$34.37 (Hoosierdata).**

*Appendix 2: Summary of Indiana DWD and/or U.S. Department of Labor Data, Detail This appendix should contain the detailed tables, upon which the summary of the labor market demand is based.)*

iv. National, State, or Regional Studies

- Summarize any national, state, or regional studies that address the labor market need for the program.

**With the rapidly changing technology that is being utilized in manufacturing many new careers are being created. When the personal computer was introduced, it displaced 3.5 million occupations, but created more than 19 million new ones (Wong). The same positive trend is forecasted for careers in Industry 4.0. According to a McKinsey report, 400-800 million jobs could come to an end by 2030 due to the advancements in automation worldwide. The United States alone could see 16-54 million people needing to change occupations by 2030. With all major technology changes comes the need for educating the workforce for these new careers. It is believed that new occupations, occupations that do not exist yet, will contribute at least 8-percent growth by 2030.**

*Appendix 3: National, State, or Regional Studies, Detail (This appendix should contain links to the studies cited or the studies themselves.)*

**It is also important to note the findings from a recent Brookings study commissioned by the Central Indiana Corporate Partnership (CICP), State of Renewal: Charting a new course for Indiana’s economic growth and inclusion. The study recommends:**

**“Specifically, the state should begin improving its standing on key resilience factors by taking action to accelerate technology adoption, facilitate faster industry and worker adaptation, and promote economic inclusion.”**

<https://indianagpsproject.com/state-of-renewal-charting-a-new-course-for-indianas-economic-growth-and-inclusion/>

v. Surveys of Employers or Students and Analyses of Job Postings

- Summarize the results of any surveys of employers or students and analyses of job postings relevant to the program.

**A survey was sent to regional industry partners for five campuses. The responses came back stating that 83.3% of the companies do not require a degree for entry level maintenance positions, however, they do put a high value on the competencies and certifications that are offered. This survey also included questions about Industry 4.0; skills needed, careers, and if a degree would be required. The results, included in Appendix 4, supported the need to develop occupational curriculum and the demand for the degree. Of the regional partners responding to the survey, nearly 94% said that a degree would be required for Industry 4.0. Additionally, 92%**

**of the employers feel that the demand for positions that are connected to industry 4.0 are medium to high.**

*Appendix 4: Surveys of Employers or Students and Analyses of Job Postings, Detail (This appendix should contain links to the surveys or analyses cited, or the documents themselves.)*

vi. Letters of Support

- Summarize, by source, the letters received in support of the program.

**The letters of support clearly indicate the need for the new SMDI degree/program and supporting infrastructure of state-of-the-art equipment and world class faculty and support staff. Indiana has a long history of manufacturing, innovation and entrepreneurship. The State of Indiana needs a partner to establish and sustain this STEM training ecosystem as manufacturers embrace the demands of Industry 4.0 and the digital revolution. Ivy Tech is that partner.**

- 1) **Industry:** Industry is looking for a training source that will allow them to continue being competitive and innovative manufacturers. The SMDI degree fills a clear void in the training market. These positions are in high demand with great wages. They often remain unfilled for six to twelve months. Data supports current need and future growth.
- 2) **K through 12:** The statewide CTE centers are looking for more avenues to introduce students to the great careers in manufacturing. This degree will allow Ivy Tech to continue serving as a leading provider of dual-enrollment and dual-credit programs. The digital manufacturing next level pathway maps to the CT, TC and AAS in SMDI.
- 3) **Community:** Regional chambers and government agencies have recognized that the ability for Indiana manufacturers to adapt to the demands of Industry 4.0 is vital for economic growth.
- 4) **Post - Secondary:** Four-year institutions recognize this need in the educational marketplace. They value Ivy Tech's place in transfer pathways, and support future articulation agreements.
- 5) **Awards:** The Indiana Manufacturing Association (IMA) recognized this Ivy Tech Industry 4.0 team and its contributions to manufacturing in November 2020. They received the Manufacturing Excellence Award as the Manufacturing Talent Champion. This is the first time the IMA has awarded this to a post-secondary institution.

*Appendix 5: Letters of Support, Detail (This appendix should contain the letters of support for the program.)*

### **3. Cost of and Support for the Program**

#### a. Costs

##### i. Faculty and Staff

- Of the faculty and staff required to offer this program, how many are in place now and how many will need to be added (express both in terms of number of full- and part-time faculty and staff, as well as FTE faculty and staff)?

**Some of the existing faculty in current INDT and AART programs will be able to immediately transition into teaching the same or a similar course in the SMDI degree. This is approximately a third of the courses. Additional faculty may be required to instruct the new courses if current positions are vacant and/or if current faculty cannot be upskilled. In those cases, one additional full-time faculty may need to be added to offer this degree. A lab technician is recommended to add to support the new highly technical equipment required and to assist with other technical projects. As a number of campuses have some equipment that can be used and/or upgraded, this can be a phased approach aligned to the specific needs of each campus site.**

**All courses that have a SACA credential embedded in the course, will require the instructor obtain the certification within a reasonable time. This will require additional training for many faculty, both full time and adjunct and vary by site.**

**The AART department chairs could skill up to take on the department chair responsibilities for SMDI.**

**Most of the faculty are in place supplemented by adjuncts. At this time no faculty additions are planned for the requested campuses specifically for this degree. Campuses have either indicated that current faculty can be upskilled and/or an open or existing vacant position will be filled with qualified faculty at the SMDI level.**

*Appendix 6: Faculty and Staff, Detail (This appendix should contain a list of faculty with appointments to teach in the program and a brief description of new faculty positions yet to be filled.)*

ii. Facilities

- Summarize any impact offering this program will have on renovations of existing facilities, requests for new capital projects (including a reference to the institution's capital plan), or the leasing of new space.

**The sites currently have or will have adequate square footage to accommodate the addition of this degree by August 2021.**

**The interconnectivity of the equipment in the SMDI degree will require current, state-of-the art networking systems. Each site will require IT upgrades varying by site.**

*Appendix 7: Facilities, Detail (This appendix should contain additional information on major impacts on facilities caused by this program.)*

iii. Other Capital Costs (e.g. Equipment)

- Summarize any impact offering this program will have on other capital costs, including purchase of equipment needed for the program.

**SMDI and SACA Equipment: Additional training equipment will be required and vary by site.**

**SMDI and SACA Equipment Maintenance: \$15,000 annually per site for equipment emergency and preventative maintenance labor and supplies after the equipment warranty expires. Eight-week course scheduling presents a significant risk when there is equipment failure. The SMDI program must be prepared for fast response time to equipment downtime in order to be successful.**

*Appendix 8: Other Capital Costs, Detail (This appendix should contain additional information on other capital costs associated with the program.)*

b. Support

i. Nature of Support (New, Existing, or Reallocated)

- Summarize what reallocation of resources has taken place to support this program.

**Start-up funding to develop, design and implement SMDI is being funded by an apprenticeship expansion grant from the DOL and an apprenticeship expansion grant from the AACCC.**

**Faculty hired to teach in AART and INDT will be required to have these SMDI skills and credentials or acquire them in a reasonable time to**

**qualify to instruct current courses in AART and INDT where SACA credentials have been embedded and if they are going to be teaching in the SMDI degree. Funding from the DOL and AACC grants will support faculty attainment of these credentials for the next two years.**

- What programs, if any, have been eliminated or downsized in order to provide resources for this program? **None at this time.**

ii. Special Fees above Baseline Tuition

- Summarize any special fees above baseline tuition that are needed to support this program.

**A \$200 per semester per student fee was approved by Ivy Tech's state board of trustees to be collected to sustain the program.**

#### **4. Similar and Related Programs**

a. List of Programs and Degrees Conferred

i. Similar Programs at Other Institutions

Campuses offering (on-campus or distance education) programs that are similar:

- CHE staff will summarize data from the Commission's Program Review Database on headcount, FTE, and degrees conferred for similar programs in the public sector, as well as information on programs in the non-profit and proprietary sectors, to the extent possible. *CHE Appendix A: Similar Programs at Other Institutions, Detail (This appendix will contain back-up tables for the summary.)*

**No other post-secondary institution in Indiana is offering a degree that is an exact comparison to the Smart Manufacturing and Digital Integration AAS. There are four institutions other than Ivy Tech Community College that offer programs that are related to the Smart Manufacturing and Digital Integration degree.**

**Indiana State University: A public university in Terre Haute, Indiana offers one related Bachelor of Science degree, Automation and Control Engineering Technology. In the 2018/2019 academic year, the university graduated 18 students from the Automation and Control Engineering program.<sup>1</sup>**

**Purdue University: A public research university in West Lafayette, Indiana offers three related Bachelor of Science degrees; Automation and Systems Integration Engineering Technology, Mechatronics Engineering Technology, Robotics Engineering Technology. In the 2018/2019 academic year, the university graduated 86 students from their Electrical, Electronic**

and Communications Engineering Technology/Technician programs and 28 students in their Manufacturing Engineering Technology/Technician programs with a Bachelor of Science degree.<sup>1</sup>

**Trine University:** A private not-for-profit university in Angola, Indiana offers two related Bachelor of Science degrees, Mechatronics and Robotics Engineering, and Manufacturing Technology.

**Vincennes University:** A public university in Vincennes, Indiana offers one related Associate of Science degree, Advanced Manufacturing Automation Technology. In the 2018/2019 academic year, the university graduated 48 students with an associate's degree and 89 students with a certificate from the Advanced Manufacturing Automation Technology program.<sup>1</sup>

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<sup>1</sup> Source: IPEDS

ii. Related Programs at the Proposing Institution

- CHE staff will summarize data from the Commission's Program Review Database on headcount, FTE, and degrees conferred for related programs at the proposing institution. *CHE Appendix B: Related Programs at the Proposing Institution, Detail (This appendix will contain back-up tables for the summary.)*

**Advanced Automation & Robotics Technology AAS:**

The existing Advanced Automation & Robotics Technology AAS degree at Ivy Tech Community College is a degree that addresses Industry 3.0 - automated processes using programmable logic controllers and robotics. The proposed Smart Manufacturing and Digital Integration degree addresses the 4.0 need for more technical and analytical skills. Industry 4.0 is driven by The Industrial Internet of Things (IIOT) and cyber-physical systems. It is the use of smart autonomous systems to monitor and control machines to improve manufacturing processes, material usage, supply chain, and life cycle management of the product.

b. List of Similar Programs Outside Indiana

- If relevant, institutions outside Indiana (in contiguous states, MHEC states, or the nation, depending upon the nature of the proposed program) offering (on-campus or distance education) programs that are similar:

**The following institutions are located in nearby states that offer similar degrees that relate to our proposed Smart Manufacturing and Digital Integration degree, but are not an exact comparison.**

**Ashland Community and Technical College: A 2-year public college in Ashland, Kentucky offers a related Associate of Science degree, Advanced Integrated Technology.<sup>1</sup>**

**Bluegrass Community and Technical College: A 2-year public college in Lexington, Kentucky offers a related Associate of Science degree, Integrated Engineering Technology.<sup>1</sup>**

**Fox Valley Technical College: A 2-year public college in Appleton, Wisconsin offers a related Associate of Science degree, Automated Manufacturing Systems Technology.<sup>1</sup>**

**Gateway Technical College: A 2-year public college in Kenosha, Wisconsin offers one related Associate of Science degree, Advanced Manufacturing Technology.<sup>1</sup>**

**Gateway Community and Technical College: A 2-year public college in Florence, Kentucky offers one related Associate degree, Manufacturing Engineering Technology.<sup>1</sup>**

**Illinois Institute of Technology: A 4-year private not-for-profit university in Chicago, Illinois offers a Bachelor of Science degree, Artificial Intelligence.<sup>1</sup>**

**Marion Technical College: A 2-year public college in Marion, Ohio offers one related Associate degree, Electrical Engineering Technology - Smart Manufacturing. First offering for the program is scheduled for Fall 2021 <sup>1</sup>**

**McHenry County College: A 2-year public college in Crystal Lake, Illinois offers one related Associate degree, Robotic Systems Engineering.<sup>1</sup>**

**Wisconsin Indianhead Technical College: A 2-year public college in Shell Lake, Wisconsin offers one related Associate degree, Automation for Industrial Systems.<sup>1</sup>**

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<sup>1</sup> Source: IPEDS

c. Articulation of Associate/Baccalaureate Programs

- For each articulation agreement, indicate how many of the associate degree credits will transfer and apply toward the baccalaureate program.

Ivy Tech currently has a great relationship with each of the universities listed above in #4.a, and has articulation agreements for existing degrees. Ivy Tech will begin articulation discussions upon approval of the degree.

Graduates of this program would be prepared, but not limited, to enter a four-year program in the following areas of study:

- **Intelligent Manufacturing**
- **Automation and Systems Integration Engineering Technology**
- **Mechatronics Engineering Technology**
- **Robotics Engineering Technology**
- **Automation and Control Engineering Technology**
- **Advanced Manufacturing Automation Technology**
- **Mechatronics and Robotics Engineering**

*Appendix 9: Articulation of Associate/Baccalaureate Programs, Detail (This appendix should contain the actual articulation agreements relevant to the proposed program.)*

d. Collaboration with Similar or Related Programs on Other Campuses

- Indicate any collaborative arrangements in place to support the program.

**The proposed program will draw on several existing programs with related coursework such as Industrial Technology, Advanced Automation and Robotics Technology, Network Infrastructure, and Cyber Security/Information Assurance.**

## **5. Quality and Other Aspects of the Program**

a. Credit Hours Required/Time To Completion

- Credit hours required for the program and how long a full-time student will need to complete the program

**The proposed is a 70 total credit hour Associate of Applied Science degree. The duration of a full-time student in this program would be 5 semesters. There is also a 31-credit hour Technical Certificate and a 21-credit hour Certificate**

*Appendix 10: Credit Hours Required/Time To Completion, Detail (This appendix should contain the semester-by-semester, course-level detail on the program curriculum, including how long it will take to complete the program, assuming full-time study.)*

b. Exceeding the Standard Expectation of Credit Hours

- If the associate or baccalaureate degree program exceeds 60 or 120 semester credit hours, respectively, summarize the reason for exceeding this standard expectation.

**Based on employer input and skills needed for this program, the credit hours required for the proposed Associate of Applied Science degree are 70 credits. The ten extra credits are required to meet the competencies required by industry and to prepare students for the Industry 4.0 nationally recognized certifications embedded in the courses within the program.**

**The results from the industry survey helped Ivy Tech to develop the required competencies related to this digital pathway. The employers specified the required content expected from potential employees in Industry 4.0 careers as shown in the survey results.**

**Ivy Tech designed the courses with industry input and aligned the competencies validated from the following nationally recognized certifications. These nationally recognized certifications will be embedded within the SMDI courses:**

- **OSHA**
  - **10 Hour Certification**
- **Smart Automation Certification Alliance (SACA)**
  - **Associate Certifications**
    - **C101 - Certified Industry 4.0 Associate - Basic Operations**
    - **C102 - Certified Industry 4.0 Associate - Advanced Operations**
    - **C103 - Certified Industry 4.0 Associate - Robot System Operations**
    - **C104 - Certified Industry 4.0 Associate -IIoT, Networking & Data Analytics**
  - **Specialist Certifications (micro-credentials)**
    - **C201 Electrical Systems I**
    - **C202 Electric Motor Control Systems 1**
    - **C204 Motor Control Troubleshooting 1**
    - **C205 Sensor Logic Systems 1**
    - **C207 Programmable Controller Systems 1**
    - **C208 Programmable Controller Troubleshooting 1**
    - **C209 Pneumatic Systems 1**
    - **C210 Mechanical Power Systems I**
    - **C211 Industry 4.0 Total Productive Maintenance Management**
    - **C212 Ethernet Communications 1**
    - **C213 Smart Sensor and Identification Sys. 1**
    - **C214 Smart Factory Systems 1**

- C215 Robot System Operations 1
- C216 Robot Systems Integration 1

○ NOCTI

- Fanuc Certified Robot Operator
- Fanuc Certified Robot Technician

*Appendix 11: Exceeding the Standard Expectation of Credit Hours, Detail (This appendix should contain detailed information on why it is necessary to exceed the standard credit hour expectation, such as links to relevant licensure and/or accreditation standards the standards themselves.)*

c. Program Competencies or Learning Outcomes

List the significant competencies or learning outcomes that students completing this program are expected to master

- **Design, program and troubleshoot programs for computers, PLC's, robots and other industrial software.**
- **Demonstrate knowledge of the basic and emerging principles and concepts that impact the Industrial Technology industry.**
- **Utilize electrical/mechanical troubleshooting and communication skills to diagnose, repair, test, and return to service failed components.**
- **Describe the hazards associated with automated machines and determine appropriate safety methods for working around computer controlled machinery.**
- **Teamwork – Function effectively as a member of a technical team.**
- **Identify and Solve Problems – Identify, analyze, and solve narrowly defined technical problems.**
- **Communication – Apply written, oral and graphical communication skills in both technical and non-technical environments; identify and use appropriate tech literature.**
- **Lifelong learning – Understand the need for, and engagement in, self-directed continuing professional development**
- **Professional/Ethical/Diversity – Demonstrate understanding of and commitment to address professional and ethical responsibilities, including a respect for diversity.**
- **Quality, Continuous Improvement – Demonstrate a commitment to quality timeliness, and continuous improvement.**

d. Assessment

- Summarize how the institution intends to assess students with respect to mastery of program competencies or learning outcomes.
- ***Quality of instruction through formative and summative assessments - Ivy Tech strives to continuously improve instruction to ensure optimal student success. Graduate exit surveys, alumni surveys and employer surveys are excellent resources to evaluate the quality of instruction as well as the overall collegiate experience. This assessment is in the “words” of the student as they fulfill a milestone in his/her career.***
- **The School of Advanced Manufacturing, Engineering and Applied Science uses a variety of methods in the teaching and measurement of outcomes. Specific measurable outcomes identified for each course along with the assessment measures used to determine student mastery of the outcomes are discussed below.**
  - **Nationally recognized certifications are validations, such as ASE, AWS, HVAC Excellence and MSSC testing and are used to determine student mastery of the program outcomes. Outcomes are also typically measured and validated through testing during class and, in some cases, through portfolios.**
- **The instrumentation methods for assessments include the following:**
- ***Formative Assessments:***
  - **Teacher tests**
  - **Written reports**
  - **Oral reports**
  - **Projects**
  - **Interviews**
  - **Outcome testing**
  - **Class attendance records**
  - **Portfolios**
  - **Discovery and experimentation**
- ***Summative Assessments:***
  - **Standardized tests**
  - **Capstone performance**
  - **Graduate surveys**
  - **Institution research studies**

- **Budget implications**
- ***Specific program outcomes* for programs affiliated with a nationally recognized certification body require students to validate outcomes met as well as take the nationally recognized exam(s). Referenced below are summaries of nationally recognized certification-based outcomes for this program:**
  - **OSHA 10 Hour Certification**
  - **Smart Automation Certification Alliance (SACA)**
    - **Various ‘Associate’ and ‘Specialist’ certifications**
  - **Fanuc Robotics Certifications delivered through NOCT**

e. Licensure and Certification

Graduates of this program will be prepared to earn the following:

- **State License: N/A**
- **National Professional Certifications (including the bodies issuing the certification):**
  - **OSHA**
    - **10 Hour Certification**
  - **Smart Automation Certification Alliance (SACA)**
    - **Associate Certifications**
      - **C101 - Certified Industry 4.0 Associate - Basic Operations**
      - **C102 - Certified Industry 4.0 Associate - Advanced Operations**
      - **C103 - Certified Industry 4.0 Associate - Robot System Operations**
      - **C104 - Certified Industry 4.0 Associate -IIoT, Networking & Data Analytics**
    - **Specialist Certifications (micro-credentials)**
      - **C201 Electrical Systems I**
      - **C202 Electric Motor Control Systems 1**
      - **C204 Motor Control Troubleshooting 1**
      - **C205 Sensor Logic Systems 1**
      - **C207 Programmable Controller Systems 1**
      - **C208 Programmable Controller Troubleshooting 1**
      - **C209 Pneumatic Systems 1**
      - **C210 Mechanical Power Systems I**
      - **C211 Industry 4.0 Total Productive Maintenance Management**
      - **C212 Ethernet Communications 1**
      - **C213 Smart Sensor and Identification Sys. 1**

- **C214 Smart Factory Systems 1**
- **C215 Robot System Operations 1**
- **C216 Robot Systems Integration 1**

- **NOCTI**
  - **Fanuc Certified Robot Operator**
  - **Fanuc Certified Robot Technician**

- **Third-Party Industry Certifications (including the bodies issuing the certification):**

- **Same as “National Professional Certifications” section above**

f. **Placement of Graduates**

- **Please describe the principle occupations and industries, in which the majority of graduates are expected to find employment.**

- **The following list is not exhaustive and all-inclusive.**

- **Reliability Engineering Technician**
- **Big Data Analyst**
- **Instrumentation Engineering Technician**
- **Controls Engineering Technicians**
- **Digital Manufacturing Engineer/Technician**
- **Industrial Engineer**
- **Electrical Engineer**

- **If the program is primarily a feeder for graduate programs, please describe the principle kinds of graduate programs, in which the majority of graduates are expected to be admitted.**

**This program would not be a feeder to graduate programs.**

g. **Accreditation**

- **Accrediting body from which accreditation will be sought and the timetable for achieving accreditation.**

- **Reason for seeking accreditation.**

**To meet the requirements of Ivy Tech Community College’s ASOM Policy 6.13, Program Accreditation, the new Associate of Applied Science (AAS) degree in**

**Smart Manufacturing and Digital Integration (SMDI) will be part of the Association of Technology, Management, and Applied Engineering (ATMAE) Accreditation. Currently, ten Advanced Manufacturing, Engineering & Applied Science (AMEAS) programs are accredited by ATMAE. The process for initial accreditation for a new program requires graduates of the program, alumni and employer participation and this is a three to four-year process. However, Ivy Tech Community College will immediately implement all standards in the accreditation to assure rigor and continuous improvement.**

**Ivy Tech Community College is accredited by the Higher Learning Commission (HLC) and considers school and program accreditation vital to the vision and mission of Ivy Tech. The purpose of program accreditation is to assess and verify that the educational quality of academic programs aligns with the accreditation regulations for particular professions or occupations. This process helps to ensure that students will be qualified to enter those disciplines.**

**A specialized accrediting agency recognizes the course of instruction which comprises a unique set of skills and knowledge, develops the accreditation standards by which such educational programs are evaluated, conducts evaluation of programs, and publishes a list of accredited programs that meet the national accreditation standards. Accreditation standards are developed in consultation with those affected by the standards who represent the broad community of interests.**

- 1. The evaluation/accreditation process offers both a means of providing public assurance of an institution's effectiveness, and a stimulus for institutional integrity and improvement.**
- 2. Serves as a guide for assisting program development.**
- 3. Provides criteria for the evaluation of new and established programs.**

**The Association of Technology, Management, and Applied Engineering (ATMAE) is a specialized accreditor for technology, management and applied engineering degrees. The primary purpose of ATMAE accreditation is to encourage and recognize the attainment of certain professional goals and standards for technology and to encourage continuous quality improvement through a voluntary and comprehensive evaluation process.**

**ATMAE's accreditation program, under its former name NAIT, was initially recognized by the [Council for Higher Education Accreditation](#) (CHEA) in 2002. ATMAE's current scope of accreditation is to accredit Associate, Baccalaureate and Master's degree programs in technology, applied technology, engineering technology, and technology-related disciplines delivered at national or regional accredited institutions in the United States. ATMAE currently accredits a total of 180 Baccalaureate-level programs (76 program only; 104 program/options) in 58 institutions, a total of 273 Associate-level programs (180 program only; 93**

**program/options) in 49 institutions, and 13 Master-level programs (5 program only; 8 program/options) in 5 institutions. ATMAE also accredits the Ivy Tech Community College System at the state level, with review of all regions and programs offered by region.**

**6. Projected Headcount and FTE Enrollments and Degrees Conferred**

- Report headcount and FTE enrollment and degrees conferred data in a manner consistent with the Commission’s Student Information System
- Report a table for each campus or off-campus location at which the program will be offered
- If the program is offered at more than one campus or off-campus location, a summary table, which reports the total headcount and FTE enrollments and degrees conferred across all locations, should be provided.
- Round the FTE enrollments to the nearest whole number
- If the program will take more than five years to be fully implemented and to reach steady state, report additional years of projections.

	Year 1	Year 2	Year 3	Year 4	Year 5
	2022	2023	2024	2025	2026
<b>Campus FTE</b>					
South Bend/Elkhart	10	22	30	43	50
Lafayette	10	15	20	25	30
Terre Haute	8	10	15	20	25
Columbus	40	45	50	55	60
Madison	6	8	10	15	20
<b>Total</b>	<b>94</b>	<b>130</b>	<b>155</b>	<b>188</b>	<b>215</b>

**Campus AAS Degrees**

South Bend/Elkhart	0	6	9	11	14
Lafayette	0	14	15	17	18
Terre Haute	0	3	4	6	8
Columbus	0	14	15	17	18
Madison	0	2	3	5	6
Total	0	39	46	56	64

**Campus Headcount**

South Bend/Elkhart	30	35	40	55	60
Lafayette	40	48	50	55	60
Terre Haute	15	20	25	37	40
Columbus	50	60	75	90	100
Madison	10	12	25	30	30
Total	145	175	215	267	290

# Smart Manufacturing and Digital Integration (SMDI)

## *New Industry 4.0 Degree for AMEAS*

ADVANCED MANUFACTURING, ENGINEERING AND APPLIED SCIENCE

SUE SMITH, VICE PRESIDENT



1

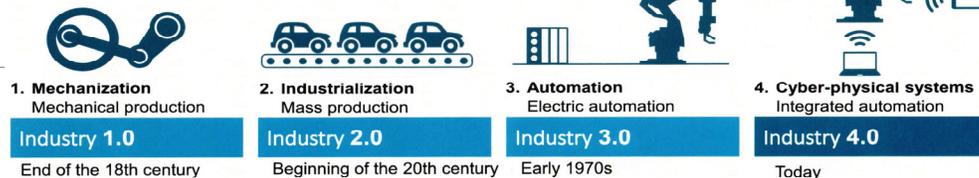
## What is Industry 4.0?

### The fourth industrial revolution

- »Digitalization of production
- »Networking of the working environment
- »Decentralization of processes and decision-making structures
- »Intelligent factory
- »Cyber-physical systems
- »Disruptive technologies: mobile internet, big data, internet of things, automation of knowledge work, cloud computing

### Biggest Challenges:

- »Lack of expertise and know-how
- »Manpower shortage for implementation



Graphics courtesy of Festo Corporation



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3



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**Certified Industry 4.0 Associate I – Basic Operations**

**Certified Industry 4.0 Associate II – Advanced Operations**

**Certified Industry 4.0 Associate III – Robotic Operations**

**Certified Industry 4.0 Associate IV – IIoT Operations**



4

## Industry 4.0 Education Checklist – Associate 4

- |  |   |   |  |
|--|---|---|--|
| <input type="checkbox"/> <b>Mechatronics Fundamentals</b>    | <input type="checkbox"/> <b>Barcode</b>                         | <input type="checkbox"/> <b>Internet Protocol</b>   | <input type="checkbox"/> <b>Data Analysis</b>          |
| <input type="checkbox"/> <b>Electricity</b>                  | <input type="checkbox"/> <b>RFID</b>                            | <input type="checkbox"/> <b>Foundation Fieldbus</b> | <input type="checkbox"/> <b>Diagnostics</b>            |
| <input type="checkbox"/> <b>Drives</b>                       | <input type="checkbox"/> <b>Electronic Sensors</b>              | <input type="checkbox"/> <b>Computer Networks</b>   | <input type="checkbox"/> <b>Analytic Creation</b>      |
| <input type="checkbox"/> <b>Fluid Power</b>                  | <input type="checkbox"/> <b>Smart Devices</b>                   | <input type="checkbox"/> <b>Networked Devices</b>   | <input type="checkbox"/> <b>Algorithms</b>             |
| <input type="checkbox"/> <b>Relay Control / Ladder Logic</b> | <input type="checkbox"/> <b>Smart Sensors</b>                   | <input type="checkbox"/> <b>Network Servers</b>     | <input type="checkbox"/> <b>AI</b>                     |
| <input type="checkbox"/> <b>Motor Control</b>                | <input type="checkbox"/> <b>Smart Output Devices</b>            | <input type="checkbox"/> <b>Distributed Servers</b> | <input type="checkbox"/> <b>Machine Learning</b>       |
| <input type="checkbox"/> <b>Power Distribution</b>           | <input type="checkbox"/> <b>I/O Link</b>                        | <input type="checkbox"/> <b>Routers</b>             | <input type="checkbox"/> <b>Predictive Analytics</b>   |
| <input type="checkbox"/> <b>Mechanical Drives</b>            | <input type="checkbox"/> <b>PLC's</b>                           | <input type="checkbox"/> <b>Switches</b>            | <input type="checkbox"/> <b>Prescriptive Analytics</b> |
| <input type="checkbox"/> <b>Robotics</b>                     | <input type="checkbox"/> <b>Safety PLC's</b>                    | <input type="checkbox"/> <b>Gateway Devices</b>     |  |
| <input type="checkbox"/> <b>Automation</b>                   | <input type="checkbox"/> <b>HMI's</b>                           | <input type="checkbox"/> <b>Managed Switches</b>    |  |
| <input type="checkbox"/> <b>Pick &amp; Place Feeding</b>     | <input type="checkbox"/> <b>I/O Interfacing</b>                 | <input type="checkbox"/> <b>Unmanaged Switches</b>  |  |
| <input type="checkbox"/> <b>Gauging</b>                      | <input type="checkbox"/> <b>Electronic and VF Drives</b>        | <input type="checkbox"/> <b>Ethernet</b>            |  |
| <input type="checkbox"/> <b>Sorting</b>                      | <input type="checkbox"/> <b>Motor / Motion Control</b>          | <input type="checkbox"/> <b>Profibus</b>            |  |
| <input type="checkbox"/> <b>Torquing</b>                     | <input type="checkbox"/> <b>Power &amp; Control Electronics</b> | <input type="checkbox"/> <b>Wireless</b>            |  |
| <input type="checkbox"/> <b>Inventory Storage</b>            |   | <input type="checkbox"/> <b>Linking</b>             |  |



5

## Implementing Industry 4.0 – Process

### Industry Implementation

- ❖ Interest and understanding varies by company
- ❖ Companies are in various stages
- ❖ Implement in processes and measure
- ❖ Similar to Lean Six Sigma
- ❖ Create greater skills/workforce deficits
- ❖ 9 campuses and employer partners participated in validation study

### Education Implementation

- ❖ Educate faculty and staff internally
- ❖ Must be able to address needs of all employer partners at all levels of 4.0 adoption
- ❖ Upgrade curriculum – embed certifications if applicable
- ❖ New degree pathways and stand-alone credentials for incumbent upgrades
- ❖ Upskill faculty – in process
- ❖ New and upgraded equipment – lab lists will be finalized in January



6

## Award Winning 4.0 Degree Development Team – Award from the Indiana Manufacturers Association

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- ❖ Joe Otte - Chair, Columbus
- ❖ Natalie Medich - Chair, South Bend
- ❖ George Tackett - Chair, Madison
- ❖ Molly Joseph - Chair, Terre Haute
- ❖ Bryce Eaton - Chair, Lafayette

### Indiana Manufacturers Association

*The **Manufacturing Talent Champion** recognizes an individual/company/entity who works to bring focus to the critical need of attracting Indiana's next-generation workforce to manufacturing's variety of career options.*



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## Smart Manufacturing and Digital Integration Degree Rationale

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Brookings study for Indiana - *State of renewal: Charting a new course for Indiana's economic growth and inclusion*

**Accelerate digital adoption** to drive economic dynamism, productivity, and competitiveness

**Promote favorable job creation and worker transitions** to allow for a beneficial "rewiring" of the economy

**Do more to support workers who aren't in good jobs** so as to promote economic justice, inclusion, and broadly shared prosperity

<https://indianagpsproject.com/state-of-renewal-charting-a-new-course-for-indianas-economic-growth-and-inclusion/>

Results from survey in Indiana:

93.8% of companies responding see a need for a technical degree in 4.0

91.7% forecast a high or medium demand for 4.0 positions in the next 3 to 5 years



8



# SACA Certifications Topical Outline

# Introduction to SACA

The Smart Automation Certification Alliance (SACA) is a non-profit foundation whose mission is to develop and deploy modular Industry 4.0 certifications for a wide range of industries. The vision is to provide highly affordable, accessible certifications that significantly increase the number of individuals who possess the skills represented by these credentials, thereby ensuring that companies have the highly skilled workers they need, and individuals are prepared to be successful in a “connected enterprise” world.

## Industry-Driven Quality

SACA certifications are industry-driven, developed by industry for industry. They use a rigorous process that starts with the development of truly international skill standards, developed and endorsed by leading experts in Industry 4.0 technology throughout the world. Certifications examinations are created based on these standards, pilot-tested and statistically analyzed to ensure quality. Each certification includes a proctored hands-on evaluation and an online test to ensure that candidates for certification can “do” as well as “know.” SACA uses an annual standards and examination review process for all certifications to ensure that the certifications continue to remain highly up-to-date.

## Preparing Students

No specific training program, curriculum, or equipment is required to prepare individuals for certification. The SACA certifications only evaluate the skills and knowledge of the individual, regardless of the method used to obtain them.

Institutions interested in preparing individuals for the certifications should reach out to major training providers for information on courses and equipment aligned with the SACA standards.

## Certifying Individuals

Individuals can receive certifications through authorized SACA certification centers. SACA ensures these certification centers maintain high standards with proctored exams, certified evaluators, and approved equipment for consistent hands-on evaluation.

## Certification Structure

SACA certifications use a modular structure to enable them to fit into wide range of individual needs and industries and educational environments. The three SACA certification categories include:

- Associate
- Specialist
- Professional

# Industry 4.0 Systems Occupational Certifications

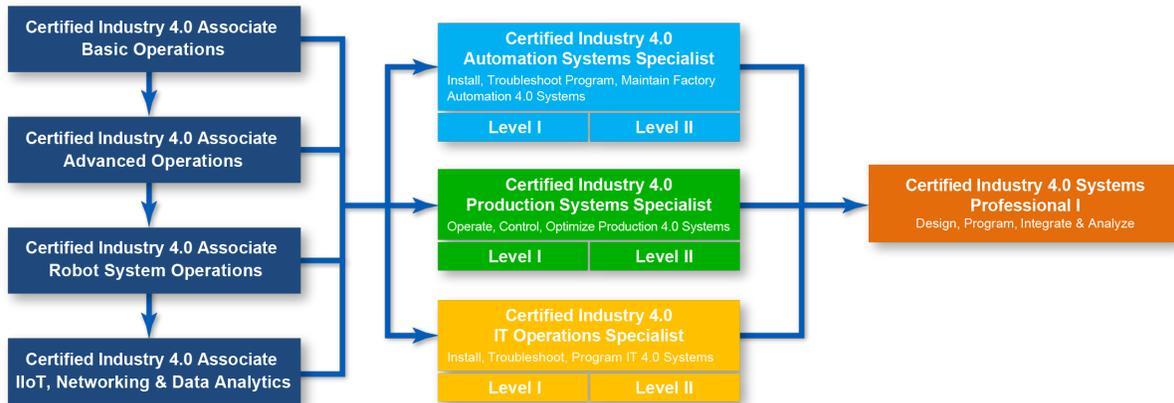


Figure 1 SACA Industry Certification Structure

Each certification is stackable. Individuals can start with one certification and add other certifications to customize their documented skills. Certifications are occupationally focused so they prepare individuals for specific occupations.

## Associate Certifications

The Associate certifications include the following four (4) credentials:

- C-101 Certified Industry 4.0 Associate-Basic Operations
- C-102 Certified Industry 4.0 Associate-Advanced Operations
- C-103 Certified Industry 4.0 Associate-Robot System Operations
- C-104 Certified Industry 4.0 Associate-IIoT, Networking and Data Analytics

The Associate certifications are introductory certifications for those individuals working in an Industry 4.0 environment. These certifications are ideal for production technicians, IT professionals, and industrial maintenance technicians seeking to acquire Industry 4.0 skills.

## Acknowledgments

SACA would like to acknowledge the contributions of the following organizations involved in the development, review, and testing of SACA certifications standards:

Amatrol, Inc.	Misco Products Corporation
Ariens Company	Mount Wachusett Community College
Ashley Furniture Industries	M-Tech Control Corp.
Berks County Workforce Development Board	North Seattle College
The Boeing Company	Nypro Inc.
Carpenter Technology Corporation	Omnitech Automation, Inc.
Cheniere Energy, Inc.	Reading Area Community College
East Penn Manufacturing Company	Rockwell Automation, Inc.
FANUC America Corporation	Sargento Foods Inc.
Foxconn Electronics Inc.	Schlumberger Limited
Gateway Technical College	Shoreline Community College
Houston Community College	Technical Laboratory Systems, Inc.
Ivy Tech Community College	The Hershey Company
Klein Educational Systems	University of Wisconsin - Stout
Kohler Co.	



**COMMISSION FOR HIGHER EDUCATION**

Thursday, May 13, 2021

**BUSINESS ITEM F:**

**Academic Degree Programs for Expedited Action**

**Staff Recommendation**

That the Commission for Higher Education approve the following degree programs, in accordance with the background information provided in this agenda item:

- Bachelor of Science in Digital Media and Storytelling to be offered by Indiana University East, IUPUI, Kokomo, Northwest, and Southeast
- Bachelor of Science in Environmental Geoscience to be offered by Indiana University Bloomington
- Bachelor of Science in Data Analytics to be offered by Ball State University
- Bachelor of Arts in Music to be offered by Purdue University West Lafayette

**Background**

The Academic Affairs and Quality Committee discussed these programs at its April 26, 2021 meeting and concluded that the proposed programs could be placed on the May 13, 2021 agenda for action by the Commission as expedited action items.

**Supporting Document**

Academic Degree Programs on Which Staff Propose Expedited Action April 26, 2021

**Academic Degree Programs on Which Staff Propose Expedited Action**

April 26, 2021

**CHE 21-06 Bachelor of Science in Digital Media and Storytelling to be offered by Indiana University East, IUPUI, Kokomo, Northwest, and Southeast**

Proposal received on February 10, 2021

CIP Code: 09.0102

Fifth Year Projected Enrollment: Headcount – 275, FTE – 250

Fifth Year Projected Degrees Conferred: 80

The proposed Bachelor of Science (B.S.) in Digital Media and Storytelling will be offered 100% online through a collaborative arrangement involving four of the five IU regional campuses (East, Kokomo, Northwest, Southeast) and IUPUI. The academic units participating in the program vary by campus: East (School of Humanities and Social Sciences), IUPUI (School of Liberal Arts), Kokomo (School of Humanities and Social Sciences), Northwest (School of the Arts), and Southeast (School of Social Sciences). IU South Bend decided not to participate in this collaborative program, and IU Bloomington does not offer online undergraduate programs.

The curriculum includes two specializations: Public Relations and Digital Storytelling. Internships are built into the capstone course, which is part of the required core curriculum. Graduates of the proposed program are prepared for careers in advertising, marketing and creative development, public relations, and writing/authoring.

The B.S. in Digital Media and Storytelling requires 120 semester hours of credit, thus meeting the standard credit hour expectation for baccalaureate degrees. There is no TSAP (Transfer Single Articulation Pathway) that applies to the proposed degree program. However, students at Ivy Tech Community College who graduate with the A.A. in Liberal Arts can transfer 60 semester hours of credit into the proposed degree program. Students at Vincennes University who graduate with the A.S. in Public Relations and Communication – Communication Studies Concentration can transfer 60 semester hours of credit into the proposed degree program. Students intending to transfer into the B.S. degree are encouraged to work closely with their academic advisor to ensure they are taking courses identified in the articulation agreements.

**CHE 21-07 Bachelor of Science in Environmental Geoscience to be offered by Indiana University Bloomington**

Proposal received on February 10, 2021

CIP Code: 30.4101

Fifth Year Projected Enrollment: Headcount – 25, FTE – 25

Fifth Year Projected Degrees Conferred: 10

The proposed Bachelor of Science (B.S.) in Environmental Geoscience will be offered through the Department of Earth and Atmospheric Sciences in the College of Arts and Sciences at Indiana University Bloomington; the Department currently offers a B.S. in Earth Science, which enrolled an average of 51 students and averaged 11 graduates over each of the last three years (FY2018-FY2020).

In contrast to the more flexible Earth Science degree, the proposed program is more focused on surface environmental problems and is more targeted. For example, it requires mastery of certain tools, such as Geographic Information Systems, and prepares individuals to become licensed Professional Geologists, which the Earth Science program does not. The Environmental Geoscience program prepares individuals to pass the Fundamentals of Geology examination, which is administered by the National Association of State Boards of Geology (ASBOG) and required for licensure by more than 30 states, including Indiana.

Created in 1837, the Indiana Geological and Water Survey is in Bloomington and is by statute a unit of Indiana University. Students enrolled in the proposed program will be able to access the resources of the Indiana Geological and Water Survey through internships and research projects.

The B.S. in Environmental Geoscience requires 120 semester hours of credit, thus meeting the standard credit hour expectation for baccalaureate degrees. There is no TSAP (Transfer Single Articulation Pathway) that applies to the proposed degree program. However, Ivy Tech students who complete the Associate of Science in Liberal Arts will be able to complete the B.S. degree in approximately 60 semester hours of credit. Similarly, students at Vincennes University who complete the Associate of Science in General Studies will be able to complete the B.S. degree in approximately 60 semester hours of credit. Students intending to transfer into the B.S. degree are encouraged to work closely with their academic advisor to ensure they are taking courses identified in the articulation agreements.

**CHE 21-08 Bachelor of Science in Data Analytics to be offered by Ball State University**

Proposal received on February 18, 2021

CIP Code: 30.7101

Fifth Year Projected Enrollment: Headcount – 55, FTE – 55

Fifth Year Projected Degrees Conferred: 36

The proposed Bachelor of Science (B.S.) in Data Analytics will be offered through the College of Sciences and Humanities (Departments Computer Science, Criminal Justice and Criminology, English, Environment, Geology and Natural Resources, Geography, History, Mathematical Sciences, Political Science, Psychological Science and Sociology) and the Miller College of Business (Department of Information Systems and Operation Management) at Ball State University. A little over a year ago (March 2020), the Commission approved an M.S. in Data Science for the University.

In August 2015, the Commission authorized Ball State to offer a B.A./B.S. in Business Analytics, which has grown in enrollment from 28 students in FY2018 to 82 students in FY2020 and which differs from the proposed program in several ways. The Business Analytics program is focused on business applications related to logistics, marketing, finance, and operations efficiency, has relatively minimal math and statistics requirements, and includes no extensive computer programming. By contrast, the proposed Data Analytics program cultivates stronger skill sets in mathematical modeling, statistics, data mining (including computer programing), and data visualization.

In addition, the interdisciplinary Data Analytics will cultivate skill sets in the five Vs of Big Data (Volume, Velocity, Variety, Veracity, and Value), which have broad appeal to employers, thus leading to applications in non-business areas. Students completing the program will also be prepared to earn a valued industry certification, such as ERSI ArcGIS Desktop, Microsoft Certified: Data Analyst Associate, or Amazon-AWS Certified Data Analytics.

The B.S. in Data Analytics requires 120 semester hours of credit, thus meeting the standard credit hour expectation for baccalaureate degrees. There are two different Transfer Single Articulation Pathways (TSAPs) that align with the proposed degree program at Ball State University. Students who graduate from Ivy Tech Community College with the Computer Science TSAP (A.S. in Computer Science) can transfer all 60 semester hours of credit into Concentration I: Computational Data Analytics of the proposed degree program. Additionally, students who graduate with the Psychology TSAP (A.A. in Behavioral Sciences, Psychology Concentration) at Vincennes University can transfer all 60 semester hours of credit into Concentration III: Social and Behavioral Data Analytics of the proposed degree program.

**CHE 21-10 Bachelor of Arts in Music to be offered by Purdue University West Lafayette**

Proposal received on April 9, 2021

CIP Code: 50.0901

Fifth Year Projected Enrollment: Headcount – 125, FTE – 111

Fifth Year Projected Degrees Conferred: 31

The proposed Bachelor of Arts (B.A.) in Music will be offered through the Division of Music in the Rueff School of Design, Art, and Performance in the College of Liberal Arts at Purdue University West Lafayette.

The curriculum for the proposed program has two concentrations: General Music and Music Technology; the latter is expected to attract 50-75 percent of the students who enroll in the program, as many STEM majors also have backgrounds in music. In fact, it is expected that perhaps 30 percent of enrollees, often with years of experience in performing music and learning music theory, will place out of lower-level music theory and other courses amounting to as many as 12-15 credits. The University reports that about 2,000 students are involved in band and orchestra activities on campus. Local internships will be available to students, with letters of support for placing interns coming from the Lafayette Symphony Orchestra, the Public Radio station (WBAA), and a music instrument company.

The University reports that most top 10 engineering schools have undergraduate music programs available to their students. All Big Ten universities, except Purdue, not only have undergraduate music programs, but also master's and doctoral programs in music.

The B.A in Music requires 120 semester hours of credit, thus meeting the standard credit hour expectation for baccalaureate degrees. There is not a Transfer Single Articulation Pathway (TSAP) that applies to the proposed degree program. However, students transferring from Ivy Tech Community College are encouraged to complete the Indiana College Core, which consists of 30 semester hours of credit prior to transferring into the B.A in Music. Vincennes University and Purdue University West Lafayette are working to finalize an agreement that allows students who graduate with the A.S. in Music to transfer into the proposed degree program.



**COMMISSION FOR HIGHER EDUCATION**  
 Thursday, May 13, 2021

**INFORMATION ITEM A: Academic Degree Programs Awaiting Action**

	<u>Title of Program</u>	<u>Institution/Campus/Site</u>	<u>Date Received</u>	<u>Status</u>
01	Associate of Science in Professional Flight	Purdue University Global	7/12/2019	Under Review
02	Bachelor of Science in Digital Media and Storytelling	Indiana University East, IUPUI, Kokomo, Northwest and Southeast	2/10/2021	On CHE Agenda for Action
03	Bachelor of Science in Environmental Geoscience	Indiana University Bloomington	2/10/2021	On CHE Agenda for Action
04	Bachelor of Science in Data Analytics	Ball State University	2/18/2021	On CHE Agenda for Action
05	Associate of Applied Science in Smart Manufacturing and Digital Integration	Ivy Tech Community College	3/22/2021	On CHE Agenda for Action
06	Bachelor of Arts in Music	Purdue University West Lafayette	4/12/2021	On CHE Agenda for Action



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**INFORMATION ITEM B: Academic Degree Program Actions Taken By Staff**

	<u>Title of Program</u>	<u>Institution/Campus/Site</u>	<u>Date Approved</u>	<u>Change</u>
01	Doctor of Psychology in School Psychology	Indiana State University	4/26/2021	Splitting a degree
02	Technical Certificate in Elementary Education	Ivy Tech Community College	4/26/2021	Changing the name
03	Post-baccalaureate Certificate in Marketing Analytics	Purdue University West Lafayette	4/26/2021	Adding a certificate
04	Post-baccalaureate Certificate in Geospatial Information Science	Purdue University West Lafayette	4/26/2021	Adding a certificate
05	Bachelor of Arts/Bachelor of Science in Economics	Indiana State University	4/26/2021	Adding distance education
06	Certificate in Information Processing	Indiana State University	4/26/2021	Eliminating a program
07	Undergraduate Certificate in Biotechnology	Ball State University	4/26/2021	Changing the credit hours
08	Graduate Certificate in Biotechnology	Ball State University	4/26/2021	Changing the credit hours
09	Undergraduate Certificate in Geographic Information Science	Ball State University	4/26/2021	Changing the credit hours
10	Graduate Certificate in Virtual and Distance Education	Ball State University	4/26/2021	Adding a certificate

	<u>Title of Program</u>	<u>Institution/Campus/Site</u>	<u>Date Approved</u>	<u>Change</u>
11	Bachelor of Science in Technical Teacher Education	Ball State University	4/26/2021	Eliminating a program
12	Master of Science in Wellness Management	Ball State University	4/26/2021	Eliminating a program
13	Bachelor of Arts/Bachelor of Science in Chinese Teaching	Ball State University	4/26/2021	Eliminating a program
14	Bachelor of Arts/Bachelor of Science in Chinese	Ball State University	4/26/2021	Eliminating a program
15	Master of Arts in Applied Gerontology	Ball State University	4/26/2021	Eliminating a program
16	Graduate Certificate in Public Health Education	Ball State University	4/26/2021	Eliminating a program
17	Undergraduate Certificate in Gerontology	Purdue University West Lafayette	4/26/2021	Adding a certificate
18	Bachelor of Arts/Bachelor of Fine Arts in Integrated Studio Arts	Purdue University West Lafayette	4/26/2021	Changing the name
19	Bachelor of Arts in Photography	Purdue University West Lafayette	4/26/2021	Eliminating a program
20	Certificate of Graduation in Indiana College Core	Vincennes University	4/26/2021	Changing the name
21	Doctor of Nursing Practice	Indiana State University	4/26/2021	Changing the credit hours
22	Bachelor of Science in Wood Science	Purdue University West Lafayette	4/26/2021	Eliminating a program
23	Associate of Science in Organizational Leadership	Purdue University West Lafayette	4/26/2021	Eliminating a program
24	Bachelor of Science in Engineering Technology	Purdue University West Lafayette	4/26/2021	Eliminating a program

<u>Title of Program</u>	<u>Institution/Campus/Site</u>	<u>Date Approved</u>	<u>Change</u>
25 Master of Science/Master of Science in Engineering in Engineering (Major in Motorsports Engineering) (PU)	Indiana University Purdue University Indianapolis	4/26/2021	Adding distance education
26 Supply Chain Logistics Micro-Credential	Purdue University Global	4/26/2021	Adding a certificate
27 Supply Chain Procurement Management Micro-Credential	Purdue University Global	4/26/2021	Adding a certificate
28 Certificate in Fitness and Wellness	Ivy Tech Community College-Sellersburg, South Bend/Elkhart	4/26/2021	Eliminating a program
29 Technical Certificate in Personal Trainer	Ivy Tech Community College-Sellersburg, South Bend/Elkhart	4/26/2021	Eliminating a program
30 Associate of Applied Science/Associate of Science in Kinesiology and Exercise Science	Ivy Tech Community College-Lake County, Sellersburg, South Bend/Elkhart	4/26/2021	Eliminating a program
31 Global Health Micro-Credential	Purdue University Global	4/26/2021	Adding a certificate
32 Secure Software Development and Quality Assurance Micro-Credential	Purdue University Global	4/26/2021	Adding a certificate
33 Master of Science, Master of Science in Nuclear Engineering, and Master of Nuclear Engineering in Nuclear Engineering	Purdue University West Lafayette	4/26/2021	Changing the name
34 Medical Assistant Certificate – Onsite	Purdue University Global	4/26/2021	Eliminating a program
35 Health Information Management-Home-based Transcription Option Certificate	Vincennes University	4/26/2021	Eliminating a program

	<u>Title of Program</u>	<u>Institution/Campus/Site</u>	<u>Date Approved</u>	<u>Change</u>
36	Certificate of Program Completion in Surgical Assisting	Vincennes University	4/26/2021	Eliminating a program
37	Certificate of Program Completion in Electronics Fundamentals	Vincennes University	4/26/2021	Eliminating a program
38	Associate of Science/Associate of Applied Science in Corrections Offered in FL only	Vincennes University	4/26/2021	Eliminating a program
39	Associate of Science in Loss Prevention and Safety	Vincennes University	4/26/2021	Eliminating a program
40	Associate of Science in Emergency Management and Planning	Vincennes University	4/26/2021	Eliminating a program
41	Certificate of Program Completion in Health Information Management Transcription	Vincennes University	4/26/2021	Eliminating a program
42	Certificate of Program Completion in Manufactured Housing Component Assemblies	Vincennes University	4/26/2021	Eliminating a program
43	Certificate of Program Completion in Manufactured Housing Core Objectives	Vincennes University	4/26/2021	Eliminating a program
44	Certificate of Program Completion in Clerk – Medical	Vincennes University	4/26/2021	Eliminating a program
45	Certificate of Graduation in Surgical Technology	Vincennes University	4/26/2021	Eliminating a program
46	Associate of Science in Assistive Technology	Vincennes University	4/26/2021	Eliminating a program
47	Bachelor of Science in Athletic Training	Purdue University West Lafayette	4/26/2021	Eliminating a program
48	Bachelor of Science in Transdisciplinary Studies in Technology	Purdue University West Lafayette	4/26/2021	Eliminating a program

	<u>Title of Program</u>	<u>Institution/Campus/Site</u>	<u>Date Approved</u>	<u>Change</u>
49	Bachelor of Science/Bachelor of Science in Environmental Health in Environmental Health	Purdue University West Lafayette	4/26/2021	Eliminating a program
50	Bachelor of Science in Industrial Management	Purdue University West Lafayette	4/26/2021	Eliminating a program
51	Graduate Certificate in Digital Design and Fabrication	Ball State University	4/26/2021	Changing the name
52	Doctor of Philosophy in Guidance and Psychological Services	Indiana State University	4/26/2021	Changing the credit hours
53	Graduate Certificate in Quantitative Research and Inquiry Methodology	Indiana University Bloomington	4/26/2021	Adding a certificate
54	Master of Arts in Emerging Media Design and Development	Ball State University	4/26/2021	Changing the credit hours
55	Doctor of Education in Elementary Education	Ball State University	4/26/2021	Adding distance education
56	Master of Science in Clinical Exercise Physiology	Ball State University	4/26/2021	Changing the CIP Code
57	Master of Arts in Clinical Exercise Physiology	Ball State University	4/26/2021	Eliminating a program
58	Associate of Applied Science in Patient Care Technician	Ivy Tech Community College-Richmond	4/26/2021	Eliminating a program
59	Certificate in Smart Manufacturing and Digital Integration	Ivy Tech Community College	4/26/2021	Adding a certificate

	<u>Title of Program</u>	<u>Institution/Campus/Site</u>	<u>Date Approved</u>	<u>Change</u>
60	Technical Certificate in Smart Manufacturing and Digital Integration	Ivy Tech Community College	4/26/2021	Adding a certificate
61	General Education Certificate	Purdue University Global	4/26/2021	Adding a certificate
62	Certificate in Optician	Ivy Tech Community College	4/26/2021	Adding a certificate
63	Bachelor of Science in Human Development and Family Science	Indiana State University	4/26/2021	Changing the name
64	Pre-Engineering	Indiana State University	4/26/2021	Eliminating a program
65	Certificate in CCMA Development Prep	Ivy Tech Community College	4/26/2021	Adding a certificate
66	Certificate of Graduation in Health Care Professional Pre-Nursing CNA Track	Vincennes University-Vincennes	4/26/2021	Adding a location
67	Doctor of Philosophy in Special Education	Ball State University	4/26/2021	Changing the name
68	Master of Arts in English	University of Southern Indiana	4/26/2021	Adding distance education
69	Post-Master's Certificate in Dual Credit English Teaching	University of Southern Indiana	4/26/2021	Adding distance education
70	Post-Master's Certificate in Addiction Science	University of Southern Indiana	4/26/2021	Changing the credit hours
71	Graduate Certificate in Post-Acute Care	University of Southern Indiana	4/26/2021	Adding a certificate
72	Associate of Science in Professional Communication	Ivy Tech Community College-Madison	4/26/2021	Adding a location

	<u>Title of Program</u>	<u>Institution/Campus/Site</u>	<u>Date Approved</u>	<u>Change</u>
73	Graduate Certificate in Dyslexia	Indiana University Bloomington	4/26/2021	Adding a certificate
74	Graduate Certificate in Online Teaching and Learning Practices	Indiana University Bloomington	4/26/2021	Adding a certificate
75	Graduate Certificate in Qualitative Research and Inquiry Methodology	Indiana University Bloomington	4/26/2021	Adding a certificate
76	Graduate Certificate in Children's and Young Adult Literature	Indiana University Bloomington	4/26/2021	Adding distance education
77	Graduate Certificate in Assessment and Evaluation Methods	Indiana University Bloomington	4/26/2021	Adding a certificate
78	Master of Science in Finance	Indiana University Bloomington	4/26/2021	Splitting a degree program
79	Bachelor of Arts/Bachelor of Science in Speech, Language and Hearing Sciences	Indiana University Bloomington	4/26/2021	Changing the name
80	Master of Arts in Speech, Language and Hearing Sciences	Indiana University Bloomington	4/26/2021	Changing the name
81	Doctor of Philosophy in Speech, Language and Hearing Sciences	Indiana University Bloomington	4/26/2021	Changing the name
82	Certificate in Insurance	Ivy Tech Community College	4/26/2021	Changing the credit hours
83	Certificate in Entrepreneurship	Ivy Tech Community College	4/26/2021	Changing the credit hours

	<u>Title of Program</u>	<u>Institution/Campus/Site</u>	<u>Date Approved</u>	<u>Change</u>
84	Certificate in Applied Organizational Leadership Studies	Ivy Tech Community College	4/26/2021	Adding a certificate
85	Certificate in School Resource Officer Training	Ivy Tech Community College	4/26/2021	Adding a certificate
86	Technical Certificate in Entrepreneurship	Ivy Tech Community College - Richmond	4/26/2021	Eliminating a location
87	Certificate in Cloud Systems Administration	Ivy Tech Community College	4/26/2021	Adding a certificate
88	Technical Certificate in Cloud Technologies	Ivy Tech Community College	4/26/2021	Changing the name
89	Associate of Applied Science in Cloud Technologies	Ivy Tech Community College	4/26/2021	Changing the name
90	Certificate in Cybercrime	Ivy Tech Community College	4/26/2021	Adding a certificate
91	Certificate in Cybersecurity Incident Analyst	Ivy Tech Community College	4/26/2021	Changing the name
92	Certificate in Security Operations Center Specialist	Ivy Tech Community College	4/26/2021	Changing the name
93	Certificate in Database Administration	Ivy Tech Community College	4/26/2021	Suspending a program
94	Certificate in Database Development	Ivy Tech Community College	4/26/2021	Suspending a program
95	Technical Certificate in Data Analytics	Ivy Tech Community College	4/26/2021	Changing the name
96	Associate of Science/Associate of Applied Science in Data Analytics	Ivy Tech Community College	4/26/2021	Changing the name
97	Certificate in Salesforce Administrator	Ivy Tech Community College	4/26/2021	Adding a certificate

<u>Title of Program</u>	<u>Institution/Campus/Site</u>	<u>Date Approved</u>	<u>Change</u>
98 Certificate in Software Application Developer	Ivy Tech Community College	4/26/2021	Changing the name
99 Certificate in Website Design	Ivy Tech Community College	4/26/2021	Changing the name
100 Bachelor of Science in Computer Information Systems Technology	Purdue University Polytechnic Statewide	4/26/2021	Adding distance education
101 Bachelor of Science in Biology	Indiana State University	4/26/2021	Changing the name
102 Certificate in Catering	Ivy Tech Community College	4/26/2021	Adding a certificate
103 Certificate of Graduation in Accounting Principles	Vincennes University	4/26/2021	Changing the name
104 Certificate of Program Completion in Business and Industry Skills NOW Industrial Maintenance	Vincennes University	4/26/2021	Changing the credit hours
105 Certificate in Business Information Technology	Ivy Tech Community College	4/26/2021	Changing the credit hours
106 Certificate in Health Care Specialist	Ivy Tech Community College	4/26/2021	Eliminating a program
107 Technical Certificate in Holistic Health	Ivy Tech Community College	4/26/2021	Changing the name



**COMMISSION FOR HIGHER EDUCATION**

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**INFORMATION ITEM C:**                      **Media Coverage**

Staff has selected a compilation of recent media coverage related to the Commission for the May meeting. Please see the following pages for details.

**WFYI**  
**College Enrollment for Hoosier High Schoolers is Still Going Down. It Will Likely Get Worse**  
**By Jeanie Lindsay**  
**April 26, 2021**

Fewer high school graduates in Indiana are enrolling in college according to a recent report from the Indiana Commission for Higher Education.

The commission said college-going rates in Indiana are at their lowest point [in recent history](#) at just 59 percent – that's a drop of 6 percentage points over the past five years. The report's data comes from 2019, so state and school officials say they expect a further decline in next year's report as data begins to reflect the effects of the COVID-19 pandemic.

College-going rates are even lower specifically among Black, Hispanic and Latino, and low-income high school graduates.

Khala Granville, Indiana University-Bloomington associate director of admissions, said disproportionate rates of discipline, and a lack of cultural competence are key problems that contribute to students' interest and access to higher education.

"That doesn't help if we're trying to create a college going culture, or even a workforce ready culture," she said.

Granville said other factors come into play too, from a student's personal or familial economic demands to how they value higher education as a pathway to get into a high paying job.

Meanwhile, Ivy Tech Community College was among a handful of public institutions that saw an enrollment increase in the commission's report.

Ivy Tech President Sue Ellspermann said colleges and universities need to do a better job of meeting the needs of students with different personal or socioeconomic backgrounds, and helping students prepare for higher education while still in high school.

"They still have to do the learning, but we should do everything that makes that process easier for them – take barriers out of their way so that they can succeed," she said.

The commission's report also highlights what it calls a "concerning" increase in graduation waivers. Students receive a waiver if they cannot complete graduation requirements, like assessments. Nearly 1-in-8 students received a waiver in 2019, and less than 30 percent of waiver recipients went on to enroll in college.

In a statement, the commission said the graduation assessment used for the class of 2019 may have contributed to an increase in waivers, but still said the spike is cause for further investigation as the state implements graduation pathways.

**WISHTV**  
**Partnership Targets Credential Completion for Students**  
**By Alex Brown**  
**April 22, 2021**

INDIANAPOLIS (Inside INdiana Business) — A new partnership involving the state, Ivy Tech Community College and Vincennes University aims to help high school students accelerate the completion of a high-demand credential. The Indiana Department of Education says the Crossing the Finish Line initiative will give juniors and seniors the change to reach their goals over the summer.

The program is available for students who are close to completing a credential or the Indiana College Core, which is a 30-credit hour block of college-level general education courses. The College Core, according to the IDOE, transfers to any public, as well as some private, higher education institutions across the state.

The state says the initiative will cover the costs of tuition, fees, books, obtaining transcripts and any required College Level Examination Program tests for students.

“Completing a college credential before starting college boosts confidence, reduces college costs, and improves the likelihood of launching into a successful career,” said Ivy Tech Community College President Sue Ellspermann. “We believe this summer program is a win for students, families, schools and employers.”

Over the next several weeks, Ivy Tech will reach out to eligible students directing them to complete an interest form. The college will then speak with interested students and help them obtain transcripts and identify the courses they need to earn their credentials.

Vincennes University will work with students individually to help them complete the Indiana College Core or another credential, according to the IDOE.

“In order to maximize the outcomes for students, communities and our state, we must continue blurring the lines between K-12, higher education and workforce,” said Indiana Secretary of Education Dr. Katie Jenner. “A person’s educational attainment, including a post-secondary credential or high-value industry certification, can positively impact quality of life, health, living wage, employment and sustained earning, which further emphasizes the incredible value of this collaboration.”

**NWI Times**  
**Indiana Extends FAFSA Filing Deadline**  
**By Mike Clark**

INDIANAPOLIS — Citing a decline in applications, the Indiana Commission for Higher Education (ICHE) has extended the filing deadline for the 2021-22 Free Application for Federal Student Aid (FAFSA).

According to a press release from the ICHE, there is no set deadline for submitting the FAFSA. But students are encouraged to do so as soon as possible to gain access to funds that will be released on a first-come, first-served basis.

Among the Indiana programs offering aid are the 21st Century Scholarship and the Frank O'Bannon Grant. There is no deadline for applying for the Next Level Workforce Ready Grant, however.

The ICHE said overall FAFSA filings were down 1.3% year over year as of April 12, while the class of 2021 filings were down more than 6% and filings for low-income students in the class of 2021 who qualify for federal Pell grants were down almost 14%.

"It is especially important for students from low-income households to file the FAFSA, so the drop for these students is concerning," Indiana Commissioner for Higher Education Teresa Lubbers said in a statement. "The barriers are often greater for these students, who may not have access to high-speed internet, for example, or who may be first generation college students and feel daunted about the process.

"The Commission's staff, our trusted partners at INvestED and many other organizations across the state are ready to help students and families take advantage of the financial aid available to them."

For more information about FAFSA, go to [www.learnmoreindiana.org](http://www.learnmoreindiana.org).

**WANE**  
**Applications Close Friday for Faculty Role on Indiana Commission for Higher Education**  
**April 13, 2021**

INDIANAPOLIS (WANE) – The [Indiana Commission for Higher Education](http://www.learnmoreindiana.org) announced it will close applications for the next Faculty Commission Member position on Friday.

Faculty Commission Member candidates must hold a full-time faculty appointment at a public institution of higher education and be engaged in teaching, research or other activities and responsibilities traditionally expected of faculty. Candidates must reside within the State of Indiana.

The Commission said the faculty member will be responsible to serve as a full voting member of the Commission, which meets approximately 20-25 days out of each year. The faculty member appointment is a two-year commitment beginning July 1 and ending June 30, 2023.

The [2021 Faculty Application and Agreement to Serve](#) will be accepted via email (preferred), regular mail, express mail or fax. Candidates must submit applications and a signed Agreement to Serve by Friday to [LWalker@che.in.gov](mailto:LWalker@che.in.gov).

Visit [www.in.gov/che/4874.htm](http://www.in.gov/che/4874.htm) for more information and to apply.

**Fox 59**  
**Believe Circle City Offers Students College Credit Courses to Help Them Save Time, Money**  
**By Melissa Crash**  
**April 15, 2021**

INDIANAPOLIS – Graduation season is approaching quickly! It's an exciting time, but families across Central Indiana are also having to look closely at their finances and how that impacts their graduate.

"I've been thinking about different places like Howard," said Taryn Bebley, a 9th grader at Believe Circle City when asked what she thinks her future looks like after high school.

"I want to go to college for architecture," said 9th grader, Elazia Davison.

These students at Believe Circle City are creating vision boards and are working towards their college and career goals, already. They're taking classes with college credits.

10th grader Isaac Foster added, “It’s given me the experience on what to expect when I get to college.”

At Believe, students graduate with a Core 40 academic or technical honors diploma and an associate degree or career certification. They hope by offering this, they can save families from having to answer this question.

“How are we going to pay for this?” explained Jawn Manning, the Dean of Student Services, “If you are working intentionally on your future diploma as a 9th grader, as a 14–15-year-old, you’re saving so much money.”

Indiana’s Commission for Higher Education released its 2021 Early College Credit Report. Data shows, that dual credit can save not only students but the state roughly \$160 million. In 2018, nearly two-thirds of Indiana students earned early college credit.

“Our goal is that our students are able to earn a livable wage once they leave us. For some students, that pathway is going to be through college,” said Manning, “What we want to do is make that as easy as possible for them.”

The report does point to disparities. Only 38 percent of Black students and 50 percent of Hispanic or Latino students earn dual credit, compared to 65 percent of White students.

“Every student is an early college student,” said Manning, “Regardless of if it’s your goal is to go to Purdue and major in engineering, early college is for you. If you’re a student who is super interested in welding or a technical skill, early college is also for you.”

At Believe they want to save students time and money as they make the next step. And teach that believing in yourself is also part of it.

“It helps me excel and know what to expect when I get to college,” added Bebley.

“Graduating with an associate degree a two-year step ahead,” said Davison.

If you’re interested in early college credit for your student, be sure to check with their school to see what options are available.

For a full look at the 2021 Indiana Early College Credit Report, [click here](#).

**The Innovator**  
**Interview of the Week: Jamie Merisotis, Future of Work Expert**  
**By Jennifer L. Schenker**  
**April 29, 2021**

Jamie Merisotis is the author of two widely acclaimed books, [Human Work in the Age of Smart Machines](#), published in October 2020, and [America Needs Talent](#), named a Top 10 Business book of 2016 by *Booklist*. He is president and CEO of Lumina Foundation, a private, independent U.S. foundation focused on increasing education beyond high school. Merisotis has extensive experience as a global consultant, having advised organizations in southern Africa, the former Soviet Union, Europe, and other parts of the world. Merisotis is a member of the Council on Foreign Relations, serves as a governor of the Ditchley Foundation in the UK and as a trustee for several local, state, and national organizations in

the United States. He recently spoke to The Innovator about the intersections of learning, technology, and the work of the future.

**Q: What are some of the key takeaways from your book *Human Work in the Age of Smart Machines*?**

JM: Machines are good at tasks that require repetition and the recognition of patterns. Humans are good at jobs that require subtlety and nuance and a high degree of interaction with people. Humans and machines can complement each other's strengths but the type of human skills that will be needed will evolve as machines take over some current jobs. This means that leaders of companies and organizations will have to take responsibility for the lifelong development and growth of human workers to help them be compassionate and ethical, develop new skills through their jobs and continuously learn.

**Q: Compassion isn't a word that is usually applied to business. Why do you list this as an important trait?**

JM: Let's say you are working in the marketing division of a pharmaceutical company and you are trying to improve the reach of a product for diabetes. The smart thing to do is to place employees into the field and spend time with people who have diabetes so that the company really understands not just the quarterly sales targeting and marketing opportunities, but what patients are experiencing and the human impact of the product. Being authentic leads to a double bottom line: the more successful the company's efforts are on behalf of the customer, the more successful the company is. This is just one example. Increasingly, empathy and compassion will be required for what we do as human workers. Employers need to embrace human work traits and focus on what customers and communities really need. Meaning and purpose are important for companies and for their employees. We work to earn a paycheck, but also to have dignity and meaning and social mobility. It is important for employers to understand this. I mention in the book that according to Gallup research even people making the lowest wages are willing to trade off some money for meaning.

**Q: It seems to me that although there is a lot of talk about preparing people for the jobs of the future but there hasn't been that much action. Why do you think that is?**

JM: Employers understand that, from the worker's perspective, ongoing training is a good thing, but I think a lot of them think of it as an employee benefit and not as something that aids the company. Lumina has funded some recent research that shows the return on investment for employer-provided training. The research, done in partnership with Accenture, showed that companies got back far more than they invested. Benefits included higher retention, greater productivity, and improvement to the bottom line. The issue is that, for most small and mid-size companies, investing in continuous learning is difficult. We need to look at the best way to develop systems and programs that allow employees of companies of all sizes to learn, earn and serve on an ongoing basis. Government support is a necessary component. I think it is also important to explore the role of private capital markets. Today when we talk about impact investing the focus is on climate change. With automation and AI driving more and more what humans have historically done, investing in human capital to ensure we have people to do the jobs that people are uniquely qualified for seems like a good investment.

**Q: How do employers know what qualifications will be needed?**

JM: Industry associations are trying to help. So are governments. The European Union has made more robust efforts to determine qualifications than the U.S. The EU has developed *the European Qualifications which* seeks to support cross-border mobility of learners and workers, promote lifelong learning and professional development across Europe. It is meant to serve as a translation tool to make national *qualifications* easier to understand and more comparable. The EU also has the Tuning project, which focuses in part on trying to align academic disciplines to what employers are seeking. In the U.S. the federal model is decentralized so rather than having the European equivalent of a ministry there are just loosely coordinated efforts.

**Q: Robots are most associated with replacing factory jobs. How do you see these workers adapting?**

JM: In my book I give an example of a guy working the assembly line at Cummins, an Indiana-based maker of diesel and alternative fuel engines and generators. He spent years working 10-hour shifts stuffing pistons into diesel engines for pickup trucks. As the assembly lines changed, his job changed, and he found himself sharing the same space with, and literally working alongside, collaborative robots. Since he started out on the assembly line and knew the process, he was put in charge of training the robots and training other workers to do the jobs robots don't have the dexterity to do. He also serves as a problem solver when something goes wrong. This is a perfect example of "complementarity" – humans and robots working together, each doing what they do best.

**Q: How do you see skills mapping working across other sectors?**

JM: I don't think we are doing a good job at a societal level of addressing how work is changing. A lot of the talk is about teaching everyone how to code, but for many workers that just doesn't make sense. For instance, there are more than 3 million truck drivers in the U.S. As driverless vehicles become more prevalent, that number will surely dwindle. Clearly, we will have to retool what truck drivers do, but it is unlikely that we will be able to turn them into coders. But truckers do understand how to move materials from one place to another. According to labor data, the demand for logistics experts was surging even before COVID, and it's even higher now. This is a clear example of how moving people into adjacent sectors and jobs can work, with the right training. When automatic teller machines were introduced in the banking industry, human bank tellers didn't go away; their jobs simply changed. Now they do a lot of trouble shooting and act as customer service agents – jobs requiring human skills that ATMs don't have. So these people are more valuable than ever; they just need to be trained in a different way, for a higher level of human interaction. Accounting is another area where jobs will be most susceptible to being replaced by AI in the coming decade, so companies are racing to get people trained in the customer service, human interaction side of their businesses.

**Q: How do you advise leaders of companies to prepare for the future of work?**

JM: Develop innovative new models for learning and working that prepare workers for jobs that require a high level of human talent. This is going to require an all-hands-on-deck approach. Employers and educators need to dramatically change what they are doing and focus on preparing people for work only humans can do. Workers should own their learning in the same way they take charge of their health and tend to it on a regular basis. We need to break the cycle of 'you learn when you are young and then you spend the rest of your life working.' That is over. Workers need to earn and learn and serve others at the same time to benefit their companies and society as a whole — and it is the responsibility of employers to enable this.